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EDITED BY

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MADISON BENTLEY, UNIVERSITY OF ILLINOIS (*Index*) and

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## Splitting the Mind: An Experimental Study of Normal Men

BY

CHARLES T. BURNETT

BOWDOIN COLLEGE

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*If a dedication to such a monograph were  
in order, this would be inscribed to the chief  
observers of these experiments,*

*J. L. B.,*

*G. E. H.,*

*H. W. L.,*

*upon whose careful work this book depends,  
and whose abundant help is gratefully ac-  
knowledgeed.*



## INTRODUCTORY NOTE

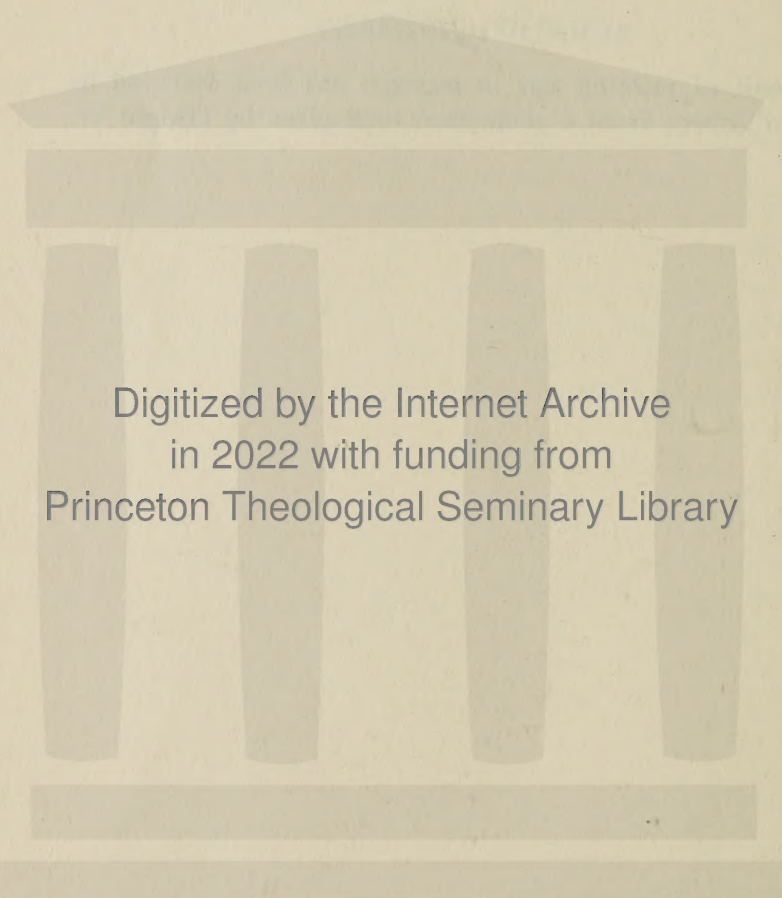
It is somewhat unusual to present full protocols in experiments under hypnosis. In the present instance it has seemed justifiable on account of the critical nature of the problem whose solution is here sought. In drawing conclusions the present experimenter has not wittingly depended on any other data than those here spread out in full before the reader. If these do not warrant the conclusion, nothing else will be whisked in surreptitiously by way of support. Should he, then, doubt the offered interpretation, he will have at hand the entire body of data with which his preferred interpretation will have to wrestle.





## ACKNOWLEDGMENT

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# CHRONOLOGICAL ORDER OF EXPERIMENTS

<i>Date</i>	<i>Observer</i>	<i>Reference Symbol</i>
Jan. 18, 1920	G. E. H.	I
Jan. 19, 1920	G. E. H.	1
Jan. 24, 1920	G. E. H.	X 1
Jan. 24, 1920	J. L. B.	X 2
Jan. 31, 1920	G. E. H.	2
Jan. 31, 1920	G. E. H.	X 3
April 13, 1920	G. E. H.	N
April 13, 1920	G. E. H.	3
April 13, 1920	G. E. H.	A
April 15, 1920	G. E. H.	X 4
April 15, 1920	G. E. H.	Y
April 15, 1920	G. E. H.	K
April 20, 1920	J. L. B.	II
April 28, 1920	G. E. H.	III
April 29, 1920	H. W. L.	L
April 30, 1920	H. W. L.	IV
April 30, 1920	H. W. L.	4
April 30, 1920	G. E. H.	V
May 4, 1920	P. J.	M
May 4, 1920	G. E. H.	5
May 18, 1920	P. J.	O
May 20, 1920	G. E. H.	P
May 20, 1920	H. W. L.	6
May 21, 1920	F. W. A.	C
May 21, 1920	H. W. L.	Q
May 27, 1920	G. E. H.	7
May 27, 1920	G. E. H.	8
April 26, 1921	G. E. H.	9
April 28, 1921	G. E. H.	X 5
May 5, 1921	J. L. B.	B
May 5, 1921	J. L. B.	10
May 10, 1921	G. E. H.	Z 1
May 10, 1921	J. L. B.	X 6
May 10, 1921	J. L. B.	Z 2
May 18, 1921	J. L. B.	11
May 18, 1921	G. E. H.	12
June 10, 1921	G. E. H.	13





## PART I

### INTRODUCTION

#### 1. THE PROBLEM AND THE STANDARD OF PROOF

By splitting the mind is meant, for the purposes of this study, the dissociation of an individual's mental states into two or more groups or systems, that function separately but at the same time. It has been common to speak of "split-off" states, a phrase which tacitly assumes the superiority in some sense of the system from which the splitting has taken place. The problem of the existence of the split-off group, as something still psychic and not merely neural, has been much to the fore during the last twenty years. Morton Prince<sup>1</sup> first gave to such a persistent psychic system the name of co-consciousness. Speaking abstractly, one means by this term the fact of two or more mental states or systems operating separately in dependence on the one human body; or, concretely, any or all of such groups other than the "primary" group, or "personality." This last term means, (a) the group that controls most of the voluntary muscles, (b) the group that controls the muscles of expression for the head, (c) the group that includes the most immediately useful memories, or (d) some combination of the foregoing. Two facts make the continuance of the distinction between "primary" and "secondary" forced and probably unfruitful, viz., the quantitative variations in the content of these co-conscious groups as well as of the "primary," and the discovery in mental disease that all, even the "primary," were fragments of a whole which together they all constituted. This distinction might be revived if, in the integration of the fragments into a complete personality, there be any outstanding group incapable of such integration. Such apparently is the group called "Sally" in the case of Miss Beauchamp.<sup>2</sup>

<sup>1</sup> PRINCE, MORTON. *The Unconscious*, p. 14.

<sup>2</sup> PRINCE, MORTON. *The Dissociation of a Personality*.

The literature in this field seems to be divisible into the following parts:

(a) Attempts to explain major happenings in abnormal minds and minor happenings in the normal by the assumption of co-consciousness.

(b) Controversies over the validity of this hypothesis as against that of "unconscious cerebration."

(c) Experimental demonstration of co-consciousness in abnormal minds.

(d) Experimental development of means for revealing the existence and content of a co-consciousness.

Of the foregoing (c) occupies of course the fundamental position, but must, at every step, be mindful of (b), since the existence of consciousness, objectively acknowledged, is always, whether for professional experimenter or layman, a matter of interpreting observed facts.

The foregoing classification of literature is convenient for comprehending the problem. Published work, of course, now and again cuts across this arrangement.

One need not labor over the thesis that a standard for acknowledging the existence of consciousness in any concrete instance is fundamental to proper experimental investigations under (c). In fixing upon such a standard, proper scientific method does not seem to demand that one should require of such a standard either that it constitute in itself a denial of the thing investigated, and so the inquiry abort, nor, in the case of abnormal phenomena, require a standard which we neither ask nor need in the normal. The proponents of "cerebration" seem to fall into the first of the foregoing errors. Their interpretation, applying equally well to all alleged mental phenomena, normal and abnormal, frequent and rare, would, if given its logical scope, negate all objective psychic facts whatever. For indeed in all recognized instances of embodied, human, mental life we acknowledge cerebration, or at least nerve function. We must rather find and employ the standard actually current among mankind for distinguishing matter and its operations from "conscious fellow creature," unless this current, real standard can be shown to be scientifically

insufficient. Science must make precise for its own ends this standard of the man of the street, which he has gradually acquired, not logically derived; which he has easily used in most cases, but rarely formulated with ease, if at all. Even in its use he is occasionally nonplussed. Mental disease, ouija boards, spiritistic phenomena, and the like bring him to a pause. Then comes the expert.

Prince has felt the need of this formulation; and he has acknowledged such a standard, in greater part, in the arrangement of his experiments for the demonstration of co-consciousness. His reference to it is explicit, though he does not set it in the forefront of his exposition.

This standard must meet two demands: for a criterion of consciousness, for a criterion of dissociated consciousness. These demands correspond respectively to the questions: Are not the phenomena unconscious? If not, are they not the work of the one usual consciousness, acknowledged by all of us in every man?

Conformably to these demands, the standard may be formulated as follows:

(1) The hypothetical co-consciousness must reveal itself in a given individual by unlearned, noninstinctive adaptation to a situation (intelligence test).

(2) The evidence for (1) must be objective, available at the time of its alleged existence, not merely the possible implication of a later fact (objective evidence test).

(3) The adaptation must leave the individual in ignorance of that event at the time of it. The evidence for this must be either the observer's own assertion, or the fact that he was at the time engaged in something that ordinarily cannot be done without full attention; or, best of all, both of these (dissociation test).

(4) The observer must later report this act of adaptation, though meanwhile without access to any source of knowledge other than the original occurrence (positive memory test).

(5) He must be able to recall also the fact of dissociation, viz., that at the time it existed he was not aware of it (negative memory test).

(6) No stricter logical demands must be made on the evidence



than are actually acceptable and sufficient in dealing with similar facts elsewhere in life, especially no demands which, by their character, nullify the very possibility of offering any evidence (proper proof test).

Of these several tests (4) and (5) may be omitted without really impairing the proof, though their successful application gives to the proof a fullness that is an especially satisfactory confirmation.

Let me state once more the meaning of this standard in terms of a situation and a procedure.

Give a man a plan for performing a fairly complex mental task. At the time of performance—and not till then—give him the data on which the plan is to be executed. Let him perform the task. At the same time, test his ability to report on what he is doing. Then remove him from the situation and give him a chance to report it without aid from any source except the original experience. If he succeeds in performing the task and later recalls it with no outside aid, we may say in effect: The intelligent character of the original act is such as we know in ourselves, and ordinarily recognize in others, only as a conscious act; and, moreover, he must have been conscious *then* to *remember now*. If, in addition, at the time of performance, he made evident that in some sense he was unaware of his act, we have the right to say descriptively, that at that time he was in some sense doubly conscious, not integratedly conscious; that his mental states formed at least two dissociated wholes.

My contentions are that the standard here formulated is both real and scientifically fruitful. If anyone doubts the first of these, the mode of opening up the attack is the one usual in an alleged matter of fact. If anyone doubts the second contention, he is asked to note the clearness with which, in its terms, the mass of experiences reported in these pages can be interpreted, and the fruitful therapeutics following upon its use in the sphere of abnormal mental life.

## 2. EXPERIMENTS AND METHODS OF THE PAST

The experimental means for demonstrating co-consciousness that have thus been used are hypnosis with automatic writing;<sup>1</sup> automatic writing alone;<sup>2</sup> the psycho-galvanic reflex;<sup>3, 4</sup> free association;<sup>5</sup> and image-formation.<sup>6</sup> Of these none but the first two seems suitable to furnish independent proof of the fact in question, by the standard for proof which has been stated above. Conceivably, by use of hypnosis, the memory test (Canon 4 above) might be applicable to all, and, in the case of hysterical dissociation, even without hypnosis. I am not aware, however, that the memory test has actually been applied with any of these methods except the first two. The results so far obtained, though, by these other methods seem to have confirmatory, rather than independently probative, force. Those by the image-formation method, indeed, are, in their psychic abundance and variety, as found, an affair of "primary" consciousness, and only by interpretation are assigned causally to a subconsciousness of correspondingly varied content.

Relying upon our standard of proof, Prince<sup>1, 2</sup> has, it seems, experimentally demonstrated the existence of co-consciousness in two abnormal individuals. In addition, Prince and Peterson, working with the psycho-galvanic reflex, on one of these same individuals who was without conscious emotion, have obtained curves like those obtained from normal individuals with conscious emotions. They *infer*, therefore, co-conscious emotion in the abnormal case. This experiment has, however, merely confirmatory value for proofs otherwise obtained, since, by itself,

<sup>1</sup> PRINCE, MORTON. Experiments to Determine Co-conscious (Subconscious) Ideation. *J. Abn. Psych.*, 3 (1908-9), p. 33.

<sup>2</sup> PRINCE, M. An Experimental Study of the Mechanism of Hallucinations. *Brit. J. Psych. (Med. Sec.)*, 2 (1922), p. 165.

<sup>3</sup> PRINCE, M., AND PETERSON, F. Experiments in Psychogalvanic Reaction from Co-conscious (Subconscious) Ideas in a Case of Multiple Personality. *J. Abn. Psych.*, 3 (1908-9), p. 114.

<sup>4</sup> JUNG, C. G. On Psycho-physical Relations of the Associative Experiment. *J. Abn. Psych.*, 1 (1906-7), p. 247.

<sup>5</sup> JUNG, C. G. The Associative Method. *Am. J. Psych.*, 21 (1910), p. 219.

<sup>6</sup> MARTIN, L. J. An Experimental Contribution to the Investigation of the Subconscious. *Psych. Rev.*, 22 (1915), p. 251.

it does not inevitably require a larger hypothesis than that of "unconscious cerebration."

Let me here show the probative quality of Prince's demonstration,<sup>1</sup> as I conceive it, since this has an important bearing on my own experiments.

EXP. I. Hysterical subject B A, showing multiple personality, of which one personality is called A and the other B. A has no knowledge of B, but B is completely aware of A. B hypnotized is called b. B has no recollection of b. B is given the problem to calculate the number of seconds by the clock between two fixed points in time, which will be shown her when A comes again, the answer to be written automatically while A is present. A comes and is shown a paper containing the numbers 1.43 and 3.39 written one above the other at the top of a sheet of foolscap. The hand thereupon, wrote thus—

"1.43 to 3.39 would be two hours less than" (sentence unfinished).

$$\begin{array}{r} 114 \\ 60 \\ \hline 6840 \end{array} "$$

A meanwhile was conversing and did not look at the paper while the hand wrote. The multiplication, be it observed, is correct, though the elapsed minutes were wrongly calculated.

Later B (and b) reported the event. This fact is not stated but is properly to be inferred from the author's statement that "B and b later explained that when doing a calculation co-consciously," etc. (p. 40). A more serious omission in the published account is the absence of any reference to the question whether, meanwhile, B had had access to any other source of knowledge of the original event than that event in actual process of occurring. Thus the memory part of the standard for acknowledging co-consciousness seems not to have been met quite scrupulously. Nor did the author state, so far as I see,

<sup>1</sup> PRINCE, MORTON. Experiments to Determine Co-conscious (Subconscious) Ideation. *J. Abn. Psych.*, 3 (1908-9), p. 33.

in this the first crucial experiment he had reported, the evidence that A did not know the content of the automatic episode. He might reply that it is to be found scattered in abundance through reports of similar cases, and is well enough known to investigators. But in the report of a critical experiment meant to solve a much controverted question, nothing logically essential should be omitted. Further, the record does not disclose whether in this experiment the writing was spontaneous or due to a post-hypnotic suggestion, nor to what extent, if at all, hypnosis was a feature of the procedure. A possibly meticulous criticism is here a compliment to the only crucial experiments in the field which I have found in print.

As to other experiments of this sort made by him, he says:

"A number of similar experiments in which the calculations were written automatically were made. The results were substantially the same, the multiplication being always correct, though the elapsed minutes were wrong" (p. 40). The author does not state whether these were made on the same person or on others.

Exp. II, on the same individual as Exp. I: B was taught some dozen characters of a system of shorthand invented by the experimenter and never seen before by B A. As soon as these were memorized the experimenter changed B to A. The experimenter then wrote a brief sentence involving the learned characters and showed it to A, "to whom it meant nothing" (p. 40). The hand promptly wrote automatically a correct translation.

Again the author fails to state how he tested the dissociation during the writing; and he omits the memory part of the test. But conformity to Canons 1-3 of our standard seems to give to this experiment, as to the first one recounted, probative force.

The remaining experiments recorded in Prince's article, including those on a second abnormal individual (Miss Beauchamp), I do not here report, as they do not seem to satisfy the requirements of the standard.

Turning now to Prince's second article,<sup>1</sup> with its report of experiments on a second abnormal individual, we note that his purpose was to prove that the origin of certain visual and

<sup>1</sup> See footnote 2, p. 5.



auditory hallucinations, experimentally induced, was in subconscious (co-conscious) psychic states (p. 167). His experimental logic is again explicit. "The following procedure was devised: (a) to induce experimentally subconscious processes; (b) to 'tap' the subconscious process while in progress and obtain physical records of it; (c) if any hallucinations occurred synchronously to obtain a detailed description of the same; (d) to correlate by comparison if possible the imagery of the hallucination with the ideas expressed in the written record of the subconscious process; and (e) to obtain immediate evidence by subconscious introspection of the relation, if any, between the elements of the subconscious process and the imagery of the hallucination and the mechanism of the same" (p. 168). These seem to be Canon 2 and, by implication, Canons 3 and 4 of our standard. The results of the experiments show that Prince obtained from his abnormal subject automatic writing purporting to report thoughts and images about data formerly experienced by her. Both the alleged mental process and the writing were in fulfillment of a plan imposed by the experimenter. In various experiments the plans were severally (a) to write automatically an account of some episode (not further specified) in her life; (b) to make up subconsciously and write automatically a story based on materials belonging to her one-time secondary personality; (c) to make up subconsciously and write automatically a story on any subject; (d) to write automatically some memory of an anxious kind; (e) to gaze into a crystal and write automatically any subconscious thoughts occurring during the crystal visions; (f) to select subconsciously and write automatically some sentence (not further specified) which was to appear thereupon consciously as a verbal auditory hallucination.

These directions were given without hypnosis and, presumably, by word of mouth. Both consciousness and alleged subconsciousness thus knew the plan; but consciousness did not know whether or how it was accomplished. These experiments were all successfully carried out; and at the close of those of types (a)-(c) above, the observer by request wrote automatically what purported to be an introspective account of just preceding subcon-

scious experiences. The "intelligent" character of the processes in question consists in recalling old data, inventing stories, inventing (or recalling) a sentence, and "thinking"—all according to plans accepted from the experimenter.

The successful application of Canons 1-3 in these experiments seems to me to offer evidence for co-consciousness so significant as to be probative, though the data on which the alleged psychic processes operated had all been known previously to the observer. Prince's report implies the successful application of the positive memory test (Canon 4), in his report of the content of the script and in his express reference to "a carefully worded questionnaire . . . care being taken to suggest no leads or theories" (p. 187); but as the protocol is not offered for examination we cannot form an independent judgment. Moreover, Prince was not primarily concerned with the application of Canon 4, but with obtaining evidence for subconscious knowledge of a causal relation between events in subconsciousness and hallucinations in consciousness.

Here, then, we seem to have a small amount of adequate evidence, from two abnormal individuals, to prove the existence of co-consciousness. Can it be proved from evidence obtained from normal individuals? This was the object of my experiments. That object is, not to show the permanent existence nor the occasional, natural occurrence of co-consciousness in a normal individual, but that it can be artificially produced in such a one—all this in contrast with the occasional, or possibly permanent, natural occurrence in certain abnormal individuals, hitherto alone the concern of scientific inquiry.

### 3. SPECIAL CONDITIONS AND METHOD OF THESE EXPERIMENTS

The problem was brought into the laboratory in a variety of ways, each intended to reveal the existence and complexity of co-consciousness, if such there be. In all, the experimental method adopted was that of hypnosis and automatic writing—hypnosis to produce the necessary dissociation, automatic writing to furnish a means of communication with any discoverable co-consciousness. All the individuals whose experimental results

are here recorded—the “observers”—were able to develop fairly deep states of hypnosis. The experiments fell naturally into two groups. The first is that of strictly probative experiments—those which seem to demonstrate conclusively the artificial production of co-consciousness in normal persons. These experiments meet the demands of the standard given on an earlier page. This required demonstration was yielded by three observers. While the reader is referred to the full exposition to come, a cursory anticipation may not be amiss to him here.

A plan of action was given the observer in hypnosis (Hypnotic Stage 1 or Hyp. 1). It required for execution data and a special treatment of them. The data were often numbers; the treatment often that of such mathematical processes as addition, subtraction, multiplication, and division; or the performance of a task according to the interpretation of data by a code agreed upon.

The sources of the data were variously contrived to keep them unguessable. Sometimes they were given in Hypnotic Stage 1 (Hyp. 1), *e.g.*, a number, while the remainder was to be found in the Interim Stage (*i.e.*, the stage between two hypnoses—Int.) according to the plan given in Hypnotic Stage 1 (Hyp. 1), *e.g.*, the number of shelves in a particular bookcase out of the many in the experimenting room. Or the entire data might be given in the Interim Stage (Int.)—*e.g.*, numbers written unobtrusively on the corners of a sheet of paper which was being used by the observer for some task both prescribed and executed during this stage (Prince's Method); or, again, one number might be the number of the page which the observer, during the Interim Stage, was reading at the moment when some sign was given, and the other number might be the number of taps made unobtrusively by the experimenter. The possible variations are obviously many.

The precise treatment to be given by the observer to the data was sometimes made to depend on some special character of the numbers found, *e.g.*, their color, according, of course, to a code given in Hypnotic Stage 1 (Hyp. 1).

Sometimes a continuous and direct exchange of communications could be maintained between the writing hand and the experimenter, of the meaning of whose talk, if not the fact of it,

the observer seemed unaware, ignoring him except as he was referred to by the recorder.

The evidence for the performance was given sometimes by automatic writing in the same Interim Stage (Int.); sometimes vocally, just after the induction of a second hypnosis (Hypnotic Stage 2 [Hyp. 2]).

It will be noted that the psychical functions of perception, controlled association, and expression are involved in the foregoing phenomena.

Tests in the Interim Stage (Int.) showed ignorance of data, plan, and execution; Hypnotic Stage 2 (Hyp. 2), on the contrary, showed full knowledge, when, meanwhile, no source of such knowledge, other than the original experience, was open; and sometimes this was retained in the Post-hypnotic Stage (Post-hyp.).

Into a second group fall experiments that are confirmatory rather than strictly probative, in the matter at issue, viz., co-consciousness. These were for the greater part planned along the foregoing lines and need not be summarized in advance of their presentation in detail. Five observers furnished the experimental results here—the original three and two others.

The object of the check experiments was (1) to test capacity for performing similar tasks without hypnosis and the dissociation effected thereby; and (2) to determine whether, if equal capacity were revealed, the hypothesis of a co-consciousness is unnecessary to interpret the facts obtained.

The three chief observers were students taking the second or third year of instruction in psychology. The evidence of their normality is not in the form of a physician's certificate; it is that of my own observation of their adaptation to life. I have known them for three or four years, for most of that time in frequent personal contact with them as my students. I have seen them in the general life of a small college and in the social life of my home. In none of them have I seen any nervous stigmata.

J. L. B. has a good war record. In college he was a leading debater, a member of the 'varsity fencing team, played football, engaged in dramatics, and was a leader in his fraternity. He took



active part in social life. On graduation he went into business. His age at the time of experiment was 21-22.

G. E. H. was an editor of the college newspaper and was fond of social life. He had a keen and scholarly mind, being a member of the Phi Beta Kappa, receiving his degree with a *magna*, and being awarded one of our scholarships for graduate work. He is at the time of writing engaged in graduate study in Psychology and Philosophy at Harvard University. His age at the time of experiment was 19-20.

H. W. L. was an editor of the college annual. He took an active part in social interests, and engaged in dramatics. He is now a student of medicine at the Johns Hopkins University. His age at the time of experiment was 21.

Two other men, first year students in psychology, contributed a small amount of confirmatory evidence. P. J. was quarterback on the 'varsity and a member of the musical clubs. His age at the time of the experiments was 20. F. W. A. was an editor of the college literary magazine and a leading debater. His age at the time of the experiment was 20.

Let these details furnish such objective basis as they can for my judgment that these observers were normal.

These five men were obtained from some eight or ten, who requested that they might be tried out in preliminary tests. No one was urged nor even asked to take part; the opportunity was made known. Not much time was spent on any one of these volunteers, when dissociation was not pretty readily induced, except in the case of J. L. B. He was at first refractory but later proved to be an excellent observer.

In the conduct of nearly all the separate experiments three persons were employed at the same time—the experimenter (E), the observer (O), and the recorder (R). No more than one person at a time was in hypnosis. The records were made by R in long-hand, with some modifications for speed and brevity.

The instructions given to O in Hypnotic Stage 1 were uttered distinctly and slowly, then repeated once in like manner; and at the close of this repetition O was asked, Do you understand? He would reply by a nod or a spoken word, usually the latter.

There was never an occasion to give the directions a third time, as O always professed to understand.

The arrangements for automatic writing occasionally involved placing a pencil in the concealed writing hand, but O sometimes picked up the pencil without aid. The writing was always badly formed, but improved somewhat as the experiments progressed. As in ordinary script, m's were sometimes incompletely formed. E had to keep watch to see that the paper was kept under the pencil and that later words were not superposed on earlier. Sometimes on reaching the margin, the hand would shift of its own accord. During the moving of the paper, the pencil sometimes remained on the paper and sometimes was lifted spontaneously. The use of a magnifying glass aided greatly in cases of doubtful interpretation, both as to characters written and the sequence of words, as the pencil was often not lifted from the paper in passing from word to word. A faint mark could many times be detected between words written in immediate sequence. E has tried very carefully to be objective in his interpretation of the recorded data.

The tests for anaesthesia of the concealed writing hand were conducted in the following way: O, having closed his eyes, was ready, whenever he felt himself touched anywhere, to report the fact at once with a "yes." E then applied finger or other blunt stimulus to hands, arms, thighs, and legs, mixing freely the tests of the writing hand and arm with those of other parts. In some experiments a sharp stimulus was used for the writing hand, to provide new material for discrimination and report on the part of the hypothetical co-consciousness. O was never told what sort of touch stimulus to expect on any part. After he was once prepared to expect the beginning of his test, he was given no further warning for any later stage of the same test. He was also kept in ignorance as to the correctness of his replies.

Each observer reported that he felt "normal," that is, he was in his usual condition of felt well-being, when he undertook a given experiment.

The method of hypnotizing employed was a combination of the so-called physical and psychical methods, viz., of eye fixation on a bright object, and verbal suggestion, followed, when the eyelids

closed heavily, by stroking and continued verbal suggestions. In the latter, emphasis was laid on creating a vivid imagination or "picture" of sleep in O's mind, or of bodily heaviness and muscular relaxation. E insisted also that O maintain deep and regular breathing. When hypnosis had been induced, the suggestion was always given that O would feel quite fit and ready for the remaining duties of the day when awaking; and that no one would be able to hypnotize him against his will. There was never any difficulty in terminating hypnosis and almost never any delay in accepting the suggestion to waken. O was usually asked after an experiment whether he felt all right. He almost invariably replied in the affirmative at once. The one or two exceptional instances and the nature of the mild discomfort are indicated in the reports of experiments. The only instances not there entered were of two persons who never yielded results of sufficient value to be included. One of these, being somewhat nervous, said, shortly after the first attempt to induce hypnosis, that he felt faint. Work was at once stopped with him and no further attempt ever made by E to resume it. The other person stated that his eyes had felt uncomfortable after a previous hypnosis, and requested that the eye-fixation factor of induction be omitted. E of course acceded at once to the request.

## PART II

### PROBATIVE EXPERIMENTS

#### EXPERIMENT 1.

Jan. 19, 1920, 3:30 P.M.

O: G. E. H.

E: C. T. B.

#### HYPNOTIC STAGE 1:

O was told in hypnosis that E would give him a problem in the addition of three numbers, that he would awake on hearing the third number, and that he would give the answer at once on being rehypnotized. No amnesic suggestion was made. After a repetition of these directions, the numbers were given as follows: 27, 97, 82. O awakened at once as directed.

#### INTERIM STAGE:

Being set at automatic writing he produced the following. In this reproduction, and in all similar cases hereafter, the vertical lines indicate ends of lines in the original script, and the dots illegible parts.

*Was to*<sup>1</sup> (Here follows a rude five-pointed star and an irregular crescent-shaped figure) *add 3 nur 3 numbers | and nd give the | answer when rehy |*  
*hy(p)notised me they were | The probl |* (There is a large indecipherable conglomerate traced faintly around the two preceding words. A new sheet begins here.) *If you really wanted me to do it | I can do it but if you | don't*  
*I (c)ant. If you would | let me I would . . . why | . . . | why*  
(A new sheet begins here.) *97, 27, 82. You said to give you the | answer*  
*I can't t tell | you because I know you don't want* (These last two words are superposed.) *me too | want | I want to do it but I . . . | to and I can do*  
*. . . | if you | told me me | you want . . . If | But I can do it*

E meanwhile talked undisturbedly with O on various subjects irrelevant to the experiment. Questioned about his right hand, O was not aware that it was doing anything. Anaesthesia of that hand below the wrist developed spontaneously after some minutes of writing, as shown by tests with metal point and by pinching. When shown this hand, O could immediately feel touches upon it. It seemed colder than the left to E; and O rubbed it afterward, saying it felt clammy. Being questioned as to what occurred in Hypnotic Stage 1, O recalled everything except the specific character of the problem. Being asked why he could not, he replied that he did not want to, but that he knew from past experience that, if he should try, he would fail.

#### HYPNOTIC STAGE 2:

After a brief pause O said 206 (correct).

E: Why did you say that? O: Because you wanted me to give the sum of some numbers.

E: What numbers? O: 27, 50 (then, in succession, each after the third being meant to supersede the third) 98, 89, 92, 42 (resting on the latter).

<sup>1</sup> All matter in ( ) inserted into the automatic record by the experimenter.



E: How did you get the numbers? O: You gave them.

E: Why hesitate on the third? O: I couldn't remember what it was.

E: What were you doing while sitting at the table? O: Nothing. (Then, after a pause) Writing.

E: When did you do this sum? O: At the table.

E: What were you writing? O: Wasn't writing. (Then after a pause) Yes, I *was* writing—writing the numbers.

E: What else? O: Telling you why I couldn't tell you about the writing.

These answers came with apparent effort. "Why," asked E. "Don't want to say what I do," replied O.

E: How could you deny that you were aware of writing? O: Paid no attention.

E: When were you doing the problem? O: When we were talking.

E: How could you? O: Doesn't seem as if I could, but I was.

O's appearance showed marked alteration between forgetfulness and recall, with some confusion at times evident.

#### POST-HYPNOTIC STAGE:

O could recall nothing from Hypnotic Stage 2.

*Probative character of this experiment:* O performed a task, viz., writing intelligently, which, by the usual standards of life, involved mental functions. He was, meanwhile, not aware of so doing and was, indeed, engaged in carrying on conversation undisturbedly on topics disconnected with the task. Later, he recalled the details of this performance, though, meanwhile, he had had access to no source of information outside himself.

*Associative relations among the several stages and subgroups:* Hyp. 1 persists in part in the voice-group of Int.; and also in the hand-group, with no evidence of incompleteness. The two groups show no connection with each other. The voice-group loses kinaesthetic and touch sensations from the hand. Whether these persist with the hand-group does not appear, except possibly by inference. But visual sensations, belonging to the voice-group (sight of right hand) bring back the other inhibited sensations of that member. The voice group is affected by inhibitions from Hyp. 1. Hyp. 2 has not quite recovered from the dissociations and inhibitions of Int.; the associations are unstable; but it seems, however, largely to include that stage with Hyp. 1. The original numbers are still partly inhibited.

Post-hyp. seems wholly dissociated from Hyp. 1.

Other pertinent questions about these relations receive no answer in the records of this experiment.

## EXPERIMENT 2.

Jan. 31, 1920, 4:30 P.M.

O: G. E. H.

E: C. T. B.

R: J. L. B.

## HYPNOTIC STAGE 1:

Directions to O: You will be given a problem of three numbers. You will add the first two and subtract from their sum the third number. You will awaken on hearing the third number. When you are rehypnotized, as soon as you think of the numbers you will lift your hand; and you will give the answer as soon as you are able.

After repetition of these directions in the usual fashion, the following numbers were given: 29, 56, 67. O awakened at once and took his place at the writing table.

## INTERIM STAGE:

When questioned O said that he recalled nothing from the preceding stage. E began a discussion about dreams. Later he asked O to name the countries surrounding the Pacific Ocean. O replied correctly and in some detail, naming islands correctly, as well as divisions of Australia and capitals of some of them. He discussed primitive peoples and defined anthropology. This was all done without signs of effort. Meanwhile his hand wrote as follows: . . . *I have to add two numbers | which were 29, 57* (An 8 seems faintly superposed on the 7.) . . . *to take away 67 . . . the (?)* . . . *was | answer was 18 I am to give the | answer (?) when. I am to give you the answer | when I giv (?) rehypnotised* (O's spelling) *and also | when I think of them I am to raise my hand | and give you* (end of sheet reached).

The back and fingers of the writing hand were anaesthetic to the sharp point of a compass. Questioned about his right hand, O replied, that it was on the table, doing nothing, just resting on the table. Being told to think about that hand he found it difficult to do so; the writing stopped and the anaesthesia disappeared. When told that he had been writing he could not recall the act, but said he guessed it had happened. He made clear that this was merely an inference on his part.

## HYPNOTIC STAGE 2:

Being put to sleep O almost immediately<sup>1</sup> raised his hand and said "eighteen" (correct). Asked what he had been doing, he named the topics of conversation and said that this was all. Afterward he added that E had been touching his arm. (The record here is unfortunately ambiguous. Taken strictly, "arm" may mean either the right or left, as undoubtedly both were touched, in accordance with E's usual practice in such tests. This singling out of arm instead of leg, which was also included in the test, seems to point to some specially felt ground of distinction, such as an original anaesthesia might have conferred. Yet in this case "hand" should have been specified, as the anaesthesia did not exist above the wrist. The fault is evidently that of E in not drawing out further introspection from O on this point.) Asked "what else," he replied "nothing."

Here E observed that O's right hand was again making writing movements, the eyes being closed. The record obtained was the following: *which you told me to do I am | to do as you told me | to do when I was rehypnotized the first | time Badger* (the recorder) *is not to add these up | While I am*

<sup>1</sup> It is hard to choose the exact phrase here and in other similar cases, because it is difficult to tell the moment when hypnosis has been induced.

again (?) | *hypnotized* . . . and the whole thing is to be done by m(e) |  
 (Here the writing runs off the paper as well as at the beginning of the next line.) . . . *isn't going to do* (?)

Being questioned O said he was doing nothing. E finding that the writing hand was anaesthetic to touch, asked O to think about that hand; whereupon the anaesthesia disappeared. Asked again what he was doing, he replied "writing"; and that he now knew that E had been touching him but that he did not know it at the time, "did not feel it then." O went on to say that the hand was writing the same as before. E: What was that? O: About the problem I had to do. Continuing, he said that he already knew the result, but did not know when he did it. (Both of these assertions are ambiguous and E can now only speculate on their meaning.) When writing he did not know that he was doing so, but does now; could not feel touches at the time, but remembers them now. "The rest of me couldn't feel it."

The suggestion was given that on awaking he would remember all about it.

#### POST-HYPNOTIC STAGE:

O feels as though he had been dreaming. Asked to make the attempt to recall, he says that he was told to recall, but can't remember what he was to recall. After some difficulty he remembers that he had recalled writing, not the act, but that he *said* he had been writing; also that he had told the subject matter, but could not now recall what it was. O remembers that E had touched his hand at those times when O, *at the time*, had said so; but at no others. He cannot recall where he was nor the presence of anyone except E. He has a slight feeling as though there were some things he can't recall. Now, he begins to forget still more, though he can still remember that he was told to recall, and what he has already said (*i.e.*, during Post-hyp.), but nothing else.

*Probative character of these results:* We find here in the Interim Stage the production of seemingly intelligent automatic writing, showing correct solution of a simple mathematical problem (one too complicated to be solved before O awoke from Hyp. 1, as shown by Check Exp. 1), while O was engaged also in complex conversation that required careful attention, and while professing to think that the hand, which was in fact writing, was merely resting. We find also within Hyp. 2, (1) the production of intelligent automatic writing, of which, at first, O professes ignorance, as well as of the stimulus applied to the writing hand; (2) the later recall of the content of the writing and the stimulus of the hand, though meanwhile no information has come to O from outside sources.

*Associative relations among the several stages and subgroups:* In Int. there is dissociation of hand-group from voice-group. This is not very stable. When the voice-group "attends to" the

writing hand (*i.e.*, develops voluntary images of the hidden hand) it recovers the lost sensations, but O finds it hard to do this. Hyp. 1 is dissociated from the voice-group but not from the hand-group.

Hyp. 2 is at first, according to all evidence that is free from ambiguity, a mere continuance of the inwardly dissociated Int. At first, associations with the voice-group appear alone; but the persistence of the hand-group appears thus: Hyp. 2 (or as we might perhaps now more clearly say), the voice-group of this Stage 2, denies further knowledge of the hand-group; but the automatic writing appears once more, reporting again correctly the matters recorded in the earlier writing. Then comes an increasing integration of the two groups. The touches on the right hand and the contents of the writing are shared. The recovered unification is expressed by O in a phrase referring to the previous dissociation: "The rest of me couldn't feel it." Part of the hand-group, *viz.*, that concerned with problem solving, is not recovered.

The associative relations of Hyp. 2 to Hyp. 1 are shown in the completion of the task assigned in the latter, and in the continued reference to the task in the writing. The vocalized answer to the problem and the hand raising are not referred to during the remainder of Stage 2, an omission rather surprising in view of all that O does report on. Perhaps there was something about the act of vocalizing in response to the original suggestion that was—shall we say—distasteful, which determined its immediate dissociation from the remaining items of this stage. Pertinent facts will be adduced on this point from later experiments. Post-hyp. shows incomplete and unstable associations with Hyp. 2 and none with earlier stages. The suggestion had been given in the preceding stage that all would be recalled in this. At first, Hyp. 2 is recalled vaguely (O feels that he has been dreaming). Then (after O has been urged to effort) lost items from the preceding stage are recalled (*viz.*, that he had been told to recall something). Then, with further effort, O recalls telling what he had written, but cannot recall what its content was. He has a vague feeling of yet more unrecalled. Even as he talks he begins to forget again.



## EXPERIMENT 3.

April 13, 1920, 2:30 P.M.

O: G. E. H.

E: C. T. B.

R: J. L. B.

(This was the second experiment upon this observer at this session.)

## HYPNOTIC STAGE 1:

Directions to O: You will multiply two numbers. The first is 85. The second is the number of shelves in the book-case to the right of the door. (This number was 6. O's eyes were, of course, closed at this time, but the book-case was near by and in full view from his chair.) When you get the second number you will at once fall into hypnosis, giving the answer as soon as possible, and raising your hand the moment you begin to think of the problem. (These directions were repeated; then) "Do you understand? (Affirmative reply.) A copy of Aesop's Fables, opened, was then put into his hands. He was told that, on awakening, he would begin at once to read the left-hand page. He was given an amnesic suggestion for the events of Hyp. 1.

## INTERIM STAGE:

Awakened, he began to read at once, well and intelligently. Stopping at the end of a page, he was told to finish the fable.

E: Why did you stop at the bottom of the page? O: I don't know why. I did so naturally. It must have been a post-hypnotic suggestion. (This behavior was probably in strict accord with the form of the suggestion, although not so intended by E.)

E: What can you recall from your previous hypnosis? O: Nothing.

E: Try. O: Nothing.

O was then tested for suggestibility. Being told that he could not lift head, put hand down, open mouth, etc., he did them all. Being told that he could not help saying 80 (chosen because of its connection with the original suggestion) on seeing O take out a watch, he did not say it; yet he resisted with some apparent effort; and he afterward acknowledged that he wanted to say it.

E: Do you recall anything? O: No.

E: Do you feel perfectly normal? O: Yes.

E had observed that early in Int. O had turned his shoulder toward the book-shelves, in such a way as to exclude them from his immediate field of view. So wondering why O was not executing the original suggestion, E continued to test O's suggestibility in several ways, till resistance seemed to require some effort, though it was always successfully made. When told he could not move a certain member he would sometimes reply that he did not want to.

O was now told to turn his head; he did so to the left (away from the shelves). Noting the obvious reluctance to turn toward the right, E told him to turn the head all around. Pausing a moment, O then gave it a big twist away round to the left. He was now told directly to move his head to the right. He did so with ample motion and speed so great that he need not have seen the shelves at all—much more rapidly than in turning the other way. Finally, "Move your head *slowly* to the right." He obeyed: and

## HYPNOTIC STAGE 2:

instantly dropping back into the chair with closed eyes, he raised his hand

and said 510 (correct). Tests for suggestibility now showed that O was in hypnosis.

E: Why did you lift your hand a few moments ago? O: When was that?

E: A little while ago. O: Oh yes, I thought of a problem.

E: What were you doing? O: Doing problem while my hand was raised.

E: Before that? O: Looking at book-shelves.

E: Before that? O: Moving hands (referring evidently to the tests for suggestibility in Int.).

E: Why did you move your head to the right so hurriedly at first? O: I was afraid to see the book-case.

E: Why? O: I didn't know that was why.

E: (Persists in asking why.) O: On seeing book-case I would go to sleep; and I didn't want to then because I was talking with you. But I didn't know that was why.

#### POST-HYPNOTIC STAGE:

O states that he remembers no events of Hyp. 2 nor the fact of falling asleep (*i.e.*, in Stage 2). He resists suggestions easily. Being pressed for further recollections, he offers a few vague memories of Int. that feel to him indistinct and confused. He remembers talking, as in a dream, and is not very sure of even that. He feels as though he had before been going through the limb movements he had just been making (*i.e.*, resisting by movement the suggestions of motor paralysis). But all these things seem less real than, for example, his going to R's room at the beginning of the afternoon. Moving arms, legs and head is all he can recall.

E: How? O: Slowly.

E: Remember anything else? O: That is all.

E: What way did you move your head? O: Both ways.

E: Did you have control? O: I think I did.

E: Do you recall anything else you have done this afternoon? O: Yes, reading fables. (This was done in the Interim Stage of an earlier experiment on this same afternoon and was recalled in the Post-hypnotic Stage of that experiment. It is thus not necessary to interpret the present memory as a reference to the present experiment.)

To check up the point as to whether O had known the number of shelves in advance of the experiment, E asked him two days later how many shelves there were. He replied that he did not know. He stated also that he had no memory of having had anything to do with them in hypnosis, though he remembered being told that they had sent him off into that state. He did not recall ever having noticed their number before the experiment.

*Probative character of this experiment:* The evidence for co-consciousness consists in the following: O professes in Int. to recall nothing from Hyp. 1. His actions, however, are apparently affected by *resistance* to the suggestion given in the latter stage. In Hyp. 2 he has become aware of the resistance present in Int., though he has had no outside information. Telling of it, he adds he was not at the time of this occurrence aware of the

meaning of his acts, viz., that they were of the nature of resistance.

*Associative relations among the several stages and subgroups:* Hyp. 1 is entirely dissociated from the voice-group of Int., but not from the resistance-group, while the latter is dissociated wholly from the voice-group. Int. as a whole is in full associative relation with Hyp. 2, and so is Hyp. 1, as far as the carrying out of the original suggestion is concerned. From Post-hyp. are dissociated both of the preceding hypnotic stages, and there is only fragmentary association with Int.

#### EXPERIMENT 4.

April 30, 1920, 3:30 P.M.

O: H. W. L.

E: C. T. B.

R: G. E. H.

(This experiment immediately followed another upon the same observer.)

#### HYPNOTIC STAGE 1:

Directions to O: You will add two numbers. The first is 639. When I give you the second you will waken at once and write the answer automatically. You will not remember what I have now said. (Directions repeated; then) Do you understand? (Affirmative reply.) The second number is 427. (O wakens at once.)

#### INTERIM STAGE:

E: What do you remember? O: About my writing—a lot about the writing (referring evidently to experiences in the preceding experiment on the same afternoon)—that's all.

O seats himself at the table, right hand behind screen. It writes at once upon taking up the pencil 1066 (correct), and repeats the number very many times. The second time it appears as 10 followed by a 6 reversed (mirror writing), and then two 6's correctly made. This extensive repetition was not a part of the original suggestion so far as E is aware or the records indicate. O states that his right hand feels colder and more numb than the other.

E: What are you doing? O: Moving the hand, as I usually do when I hold a pencil.

Tests of anaesthesia were negative. The account as given above shows that exploration for awareness of the real meaning of the hand movements was not as extensive as it properly should have been; but it seems not improper to assume, that had O known what he was really doing he would have said so in reply to the last question.

#### HYPNOTIC STAGE 2:

E: What were you doing when sitting at the table? O: Writing.

E: What? O: 1066 (correct).

E: What is that? O: The answer to the problem you gave me (correct).

E: When did you perform the problem? O: Don't know.

E: (After a pause) Can you think now when you performed it? O: No.

E: Did you perform it before you sat down in the writing chair? O: Don't know.

E: Did you perform it before you awoke? O: I woke up when you gave me the second number.

E: Why didn't you tell me what your hand was writing? O: Didn't know it was writing.

E: How do you know now? O: Don't know. (Presumably, in view of other statements by O, this was not intended as a denial that he knew that he had been writing, but rather as a denial that he knows how he knows.)

E: Do you know you wrote it? O: Think I did.

E: Do you recall actually writing it (*i.e.*, the act in process)? O: No.

Yet he had already stated, without access to information outside himself, that he had been writing. This seems to indicate fluctuating associative connection between the hand-group of Int. and Hyp. 2.

E: Are you asleep or awake now? O: Awake.

E: If awake, why can't you take your arms off the chair? (O cannot lift his arms from the chair.) Can you when awake? O: Yes.

E: You are going to begin to laugh now. (O does so.) You are laughing on one side of your face and weeping on the other. (Not well carried out, the weeping effect predominating, but without tears here and below.)

E: Now are you asleep or awake? O: Don't know.

E: How does your present state feel? O: I'm very comfortable.

E: Why don't you know whether you are asleep or awake? O: I thought I was awake.

E: You will be sad and weep. (O accepts the suggestion.)

E: Are you comfortable now? O: No.

E: What are you weeping about? O: I don't know.

E: Do you feel comfortable? O: I don't know. (See reference to this in Post-hyp.)

E: You are not weeping; you're laughing. (O does so.)

E: Will you tell us the joke? O: I don't know what it is; I just feel good.

E: You are putting this on. O: I'm not.

E: This is acting, isn't it? O: No.

E: You are laughing because your left hand is a humpty-dumpty. O: (Laughing more than ever) It feels like an egg.

He is next told that he can open his eyes, but remain asleep. He is then given the suggestion to see a motto over the door. It is not accepted. Being told that his hand looks like chalk, he agrees.

#### POST-HYPNOTIC STAGE:

E: What do you remember? O: Weeping, laughing.

E: What were you laughing at? O: Nothing, as I remember.

E: Did you feel very much amused? O: Yes—more so than I usually do when I laugh.

Being told to look at the chair-arm, he recalls the humpty-dumpty. He also reports that he felt terribly when weeping.

E: Wasn't that crying acting? O: No. It seemed as if something terrible had happened; and I felt all broken up over it.

He reports, further, that being asked, while weeping, whether he was comfortable, this word did not seem to have any meaning for him. This perhaps indicates the depth of his absorption in the suggestion. The foregoing account indicates that E did not explore fully for memories of Int.



*Probative character of this experiment:* We have here the execution of a mathematical task according to a plan while the individual is apparently unaware of so doing. Yet later, without information meanwhile from any source outside himself, he reports what he has done.

*Associative relations among the several stages and subgroups:* Hyp. 1 is associated with the hand-group of Int., but not with the voice-group. It is also associated with Hyp. 2. There is no evidence as to whether it survives in Post-hyp. In Int. the hand-group is partly dissociated from the voice-group, *i.e.*, so far as the *meaning* of the right hand movements is concerned. About the reverse relation between these groups there is no evidence. Both are associated with Hyp. 2, when they are reunited. The latter is associated, in turn, with Post-hyp.

*Comments:* (1) The chief experimental defect in the foregoing is, perhaps, the failure to explore still further O's apparent unawareness in Int. of the meaning of his right hand movements. (2) The ease with which the problem was solved is worth noting. The testimony of O implies that it took place during Int., and by the promptness with which he wrote the answer on picking up the pencil, the latest limit is set. During that period he was making the usual effective social adjustment to E in the matter of question and answer. As to his ability to make such a complicated adjustment, without the aid of hypnosis, the series of experiments affords no answer—a regrettable omission. (3) The kind of resemblance between hypnosis and the normal state is not introspectively clear to O, as shown by his change from certainty to doubt, while E plied him with suggestions. At first he declares himself "awake"; at the last he doesn't know. (4) Emotions of some apparent strength can be aroused in hypnosis, with little or no ideational content (representing no definite object toward which the emotion is directed).

#### EXPERIMENT 5.

May 4, 1920, 4 P.M.

O: G. E. H.

E: C. T. B.

R: H. H.

#### HYPNOTIC STAGE 1:

Directions to O: I am going to give you two numbers. The first is 93. The second I will give you on a piece of paper when you waken. If it

appears in ink of one color, add it to the first number; if in ink of two colors, subtract it from the first. (Directions repeated carefully; then) Do you understand? (Affirmative reply.)

## INTERIM STAGE:

E: Can you tell me what has happened? O: I don't know; I can't remember.

E: What is the best you can make of this I-don't-remember? O: I can't make anything of it. I can't remember because I have nothing to connect it with.

E: Are you willing to make an effort? O: I haven't anything to put any effort on.

E: Is it like trying to report what is on the fourth street on the right, up from the harbor of Canton (taken as an example of matters utterly unknown to O)? O: Yes, I have nothing to put any effort on.

O now takes his place at the table. The writing hand is not anaesthetic.

E: Do you feel sleepy? O: No.

E: Do you feel as if there was something on your mind? O: No, I feel rather dreamy; I can't think of many things.

To O is now shown a card with 57 on it in red and black.

E: What does it recall? O: A card I saw once before with red and black numbers on it.

E: Nothing else? O: No.

E: Are you telling me the truth? O: Yes.

E: Does it bother you to have me ask that? O: No.

O's writing is now in progress. Tests show that the writing hand is anaesthetic. Being given a book. O reads rapidly aloud, while his hand makes the figures 36 (correct) over and over again, filling a sheet.

E: What are you doing with your right hand? O: Nothing.

O gives an account of the content of his reading.

Tests for suggestibility show that the head and left hand are completely resistant, but that the right hand yields, showing paralysis, movement, and inability to stop movement, according to the word of E. O is aware of all this. ("That is because my right hand feels differently than it usually does.") E: The sight of that hand will put you to sleep. O falls asleep at once and is helped back to the easy chair.

## HYPNOTIC STAGE 2:

O tells what he has been talking about, what he wrote, and says that the latter was the answer to the problem given him.

Here a fellow-worker of O in the laboratory, well known to him, comes to the door to speak to E. Being questioned about this, O replies that he knew some one came, but not who it was. The door was very near O, but his eyes were closed. He is well oriented in time, guessing the hour within fifteen minutes too early. O is given the suggestion to recall all when he awakes.

E: Did you know I touched your (right) hand? O: I know now you did.

E: How? O: Because I remember it.

E: How can you remember now and not have known it then? O: I wasn't thinking of it then.

E: Were you feeling normal then? O: No, not quite normal. I kept thinking of one thing, that is, whatever I was looking at.

E: Are you asleep or awake now? O: I'll call it asleep.

E: What is it? O: It is really being asleep.

E: Now when you wake up I want you to remember what has taken place. Do you think you can do it? Is it an effort to do it? O: Yes.

E: I want you to tell me what the effort consists in, when you wake up. You will awaken when I rap three times.

POST-HYPNOTIC STAGE:

E: Can you remember? O: I suppose so, but I don't really want to; it's such a hard thing to do. I don't want to say what it was. It's hard to say. I remember sitting at the table then and writing the number 36 and being touched on the hand.

E: What else do you remember? O: Telling you I didn't feel quite normal when I sat in the chair.

E: Now you are going to tell me in what the effort consists. O: First in trying to remember and then in trying to say it.

E: Is it comparable to anything else? O: Like some unpleasant thing you try to forget.

E: The writing? O: No, the remembering.

E: The content, or the trying to remember? O: I guess it must be trying to remember, not the content.

E: Is it like learning a lot of Latin verses if you hated to learn the Latin and hated to hear it spoken? O: Yes.

E: Have you ever felt that way before? O: Yes. After I say it, it seems to be off my mind, but I wouldn't want to say it again.

E: Emotionally, how does it seem to you? O: I dislike to think about it.

E: Do you know why? O: No.

E: Have you felt similarly in similar experiences? O: Yes.

E: Do you now feel different from the way you felt in this chair (the one at the table)? O: Now I can think of everything; then I felt sort of dreamy.

E: How did you feel about your right hand (i.e., when it seemed independent of O's control)? O: I didn't feel as if it were mine.

E: Was it hard to think of the whole experience? O: Yes, both the chair experience and the writing.

E: How do you feel now? O: Relieved from the ordeal. I feel better when I forget it all. It seems disagreeable when I am awake and remember it because it is so inconsistent.

*Probative character of this experiment:* O performs a problem in subtraction after deciding whether, according to the color code agreed upon, the figures call for subtraction or addition, and he writes the answer, professing, at the same time, to be unaware of it all and of what he had been originally told to do. While recording the answer over and over, he is reading a text with such understanding as to be able to report on it afterward. In a later stage he recalls both groups of facts, without, meanwhile, having received any outside information.

*Associative relations among the several stages and subgroups:* Hyp. 1 is dissociated from the voice-group of Int., but not from

the hand-group, nor from Hyp. 2. In Int. the hand-group is dissociated from the voice-group (except for a certain area of experience which is apparently shared, *i.e.*, the visual); but we find no evidence that enables us to assert to what extent, if at all, the voice-group is dissociated from the hand-group. Both of these are associated with Hyp. 2 and Post-hyp. Hyp. 2 also is associated with Post-hyp.

*Comments:* The following subsidiary facts, indicated in this experiment, are worth bringing together for easy availability: (1) Int. was not normal. O felt dreamy, monoideic. (2) The right hand was not anaesthetic when tested prior to the writing. (3) O explains this anaesthesia by saying, "I wasn't thinking of it (the touch) then." "I know now you did." (4) He is not quite sure whether to call the hypnotic state one of sleep, but finally accepts that characterization. (5) How shall the felt difficulties in recalling the events of Int. be regarded? O informs us that effort is involved in two things—trying to remember and trying to say it, as if it were something unpleasant that one would gladly forget. He has felt the same way in other similar experiments. The form of his report seems to indicate on the one hand honesty in his introspection during Int., and on the other the discomfort of confusion in logical processes. There is no evidence of concern lest anyone should think him lying. (6) While in hypnosis, and not occupied with the execution of detailed suggestions, O obtained new sensory material and was oriented in time. (7) The dissociation in Int. is clearly pointed out in post-hypnotic recall by O's statement that the writing hand, anaesthetic while executing special suggestions, did not feel as if it were his.

#### EXPERIMENT 6.

May 20, 1920, 3:30 P.M.

O: H. W. L.

E: C. T. B.

R: G. E. H.

#### HYPNOTIC STAGE 1:

Directions to O: I am going to give you a problem. You are to multiply two numbers. The first is the number in the right-hand corner of the book page which you are looking at when I ask you to hand me a book. The second is the number of taps you hear me make while you are looking at the book. The answer you will write automatically without knowing you are doing so. (Directions repeated as usual; then) Do you understand?



(Affirmative reply.) O then woke according to the suggestion that he would do so when asked to sit in another chair.

#### INTERIM STAGE:

E: Do you remember what has been happening? O: I can't remember anything.

E: What is it like? O: A blank.

E: Are you asleep or awake? O: Awake, I guess.

Tests for suggestibility are negative. Being handed an open book of Aesop's Fables, he is asked to look for a page containing three fables. While O is searching, E makes three taps and takes the book away (at p. 41). By request O then repeats some verses that he knows by heart ("Bowdoin Beata") and does so easily, without obvious distraction. At the same time his right hand is writing over and over again 123 (correct), usually in a column, but occasionally in a row. (Five times, scattered through a series of thirty-seven, 133 appears instead.) Tests for anaesthesia of writing hand are now positive.

E: What are you doing? O: Nothing.

E: What do you hear? O: A pencil. (O's pencil was making a very perceptible noise.)

E: Whose? O: May be George's (R) pen.

E: Are you awake or asleep? O: Awake. (O acts very sleepy, but refuses motor suggestions.)

E: What is your right hand doing? O: Nothing.

He is then told that he cannot hold his eyes open, and he thereupon falls asleep. He returns to the easy chair.

#### HYPNOTIC STAGE 2:

E: What have you been doing? O: Nothing.

E: Why didn't you tell me when you were writing? O: I didn't know I was writing.

E: Did you hear noise of a pencil? O: Yes.

E: Why did you say it was George's pencil? O: Because he was writing.

E: Did you feel my touches on your hand? O: No.

E: On your arm? O: Yes.

E: Did you really not feel them at all on your hand? O: All I felt were on my arm.

E: Do you recall now feeling them on your hand? O: Can't seem to think.

E: Were you awake or asleep while writing? O: Awake.

E: How did you feel when I told you you couldn't do certain things? O: Felt sleepy.

E: Like falling into hypnosis? O: Yes.

E: What were you writing? O: 123.

E: What was that? O: Answer to problem.

E: What was the problem? O: Multiply number on the upper right-hand corner of page you handed me by number of taps.

E: Do you remember any of the fables on that page? O: One about a wolf (correct).

E: Were you aware, at the time, of looking for the number of the taps? O: No.

E: When did you do the problem? O: Right after you took the book.

E: Were you aware of doing the problem? O: No.

E: Were you thinking of anything else while repeating Bowdoin Beata?  
O: No. I felt sleepy all the time.

E: More so than usual? O: Yes.

E: More than you do now? O: Yes.

E: Can you wake up now if you want to? O: I think so.

E: Do you have any such difficulty in speaking as George had (referring to peculiar features of an earlier experiment reported in this monograph as Exp. P.)? O: No.

E: Yes you do. O: No, I don't.

E: Yes you do.

Here O works his face as if trying to speak, but utters nothing.

E: You can't say your name. (O makes an unsuccessful effort.)

E: Can you recall what it is? (O nods.)

E: But you can't say it? (O shakes his head. His right hand moves as though writing. Thereupon he is made to sit once more at the table with his hand behind the screen. His replies, recorded in the following dialogue, were given in writing.)

E: Why can't you say it? O: You told me I had the same trouble as George.

E: Can you think how to say it? O: Yes.

E: How? (O writes his name.)

E: Can't you utter it? O: No.

E: Have you seen anyone with this difficulty before? O: Yes.

E: Who? O: G..... H..... (correct).

E: Now your difficulty is removed. (O speaks his name, and writing stops.)

E: Can you answer questions now? O: Yes.

E: Why couldn't you before? O: Couldn't speak.

E: Did you try to? O: Yes.

E: What prevented it? O: Don't know.

E: Do you want to wake up? O: Don't care.

E: Are you comfortable? O: Yes.

E: What are you thinking about? O: Nothing.

E: How did you get the solution of your problem? O: I heard three taps; and as soon as I got the number from the top of the book I multiplied them.

E: As you do ordinarily? O: Yes.

E: You will start to take your fountain pen from your pocket, and when you do, it will waken you. Do you hear any noise now? O: (After a long pause, though the sound is easily recognized by the ordinary ear, and O is himself musical.) It sounds like music.

E: Like what instrument? O: (Listening hard.) It sounds like an organ (correct).

O then starts to take out his fountain pen, though he had only a pencil in his pocket; and wakens.

#### POST-HYPNOTIC STAGE:

E: What woke you? O: Your telling me to take a fountain pen out of my pocket. That didn't seem right since I knew I didn't have one; but the more you suggested it, the more I thought I did have one.

E: What else do you recall? O: Problem.

E: Can you remember it? O: I think I can. (He states it correctly.)

E: Do you remember doing the problem? O: No.

E: Do you recall anything else about your sitting at the table? O: Feeling very sleepy, reciting Bowdoin Beata, nothing else.

E: Do you remember any automatic writing? O: I think I can—not sure. I remember your asking me about it, but I don't remember doing it.

E: Do you remember anything else? O: I never felt before as I did when I sat at the table (in the Interim Stage). I felt numb, and finally awake; but I could do the things you said I couldn't. There is something else I'd like to say but can't. Don't know what it is, but I feel there is something there.

E: Do you feel now the way you did when looking at the book? O: No. (Here tests for suggestibility were negative. O went on to say that he did not feel comfortable when sitting at the table; he wanted to go back to the easy chair.)

E: Do you recall any difficulty of speech? O: I think that's what I wanted to tell you about. As soon as I took a breath to say something, it seemed to stop.

E: Did it bother you? O: Yes, because when I tried to talk my breath stopped. It was like trying to talk after you've run till you're out of breath.

E: Did you try to do anything? O: Yes, writing automatically. I didn't like not being able to answer so many questions; and writing relieved my mind—to be able to say anything.

E: Do you remember anything else? O: A band. (Record does not show whether this is correct. It is not improbable.)

E: Do you recall an organ? O: No.

*Probative character of this experiment:* O gathers information and performs a task according to a plan. Of all this he appears to be unaware; and a part of it at least (the writing) is being done while he seems to be fully occupied with another task that requires attention for its execution and receives enough to make its content remembered. O is able later to recall leading features of both tasks without resort to any source of information outside himself.

*Associative relations among the several stages and subgroups:* Hyp. 1 is dissociated from the voice-group of Int., but not from Hyp. 2. No direct associations with Post-hyp. are apparent. In Int. the hand-group is dissociated from the voice-group, but reunited in Hyp. 2. The hand-group, however, is dissociated at least in part, perhaps wholly, from Post-hyp., but not so the voice-group. Hyp. 2, in turn, is in association with Post-hyp.

*Comments:* (1) The scope of Hyp. 2 is narrower than with G. E. H. The touches on the anaesthetic hand of Int. are not recalled, though the writing is not forgotten. (2) The suggested dissociation of the speech function does not involve ideas of that

function (as in the spontaneous case of G. E. H. See Exp. P).  
 (3) There seems to be some resistance to the recall of the speech failure episode. (4) The recall, in Post-hyp., contrary to the rule, is largely spontaneous; that of Int. was due to, or furthered by, a suggestion in the preceding stage. (5) The abnormality of Int. is shown by sleepiness and yielding to suggestion. (6) Anaesthesia of the writing hand to touch is, as usual, spontaneous.

## EXPERIMENT 7.

May 27, 1920, 2:30 P.M.

O: G. E. H.

E: C. T. B.

R: H. W. L.

## HYPNOTIC STAGE 1:

Directions to O: When you awaken I shall have you sit at the automatic-writing table. I shall show you a number. If it is in ink of one color, you will record for me what happened during the dinner hour; if in two colors, you will record the events of the hour just preceding this present one. You will be unaware of this (*i.e.*, what E has said) after you waken and while you are writing. (Directions repeated; then) Do you understand? (Affirmative response.)

## INTERIM STAGE:

O takes his seat at the table.

E: Can you remember anything? O: No.

E: What does it seem like? O: Like so much time lost. Seems a little as though I had been asleep—not much different. I do not feel as I do when I awaken in the morning.

E: Do you feel awake? O: Not as alert as usual.

His right hand is not anaesthetic.

He is now shown a paper on which 29 appears in ink of one color. His concealed right hand immediately begins to write while he asks: "What is it?" (See his statement in Hyp. 2 that he did not know what it meant.)

E: What went on last hour? O: I was in the music room taking tests (correct).

E: Did you find them difficult? O: Yes—the rhythm one in particular.

E: What happened this noon? O: Everything—Junior marching.

E: What can you tell me about it? O: We marched in Memorial Hall. There was not good attendance.

E: What happened at the house? O: A meeting directly after dinner.

E: Do these questions remind you of anything? O: No.

The following writing has been produced meanwhile.

*At about 12:30 I went into the | dining room and sat down to the | table—  
<sup>1</sup> H..... at my left | . . . L..... at my . . . | S.....  
 directly across the | table we had meat and | . . . potato and biscuits  
 . . . and | then all the Juniors went over | to Mem Hall after we ha  
 (ran off paper) | a meeting around the | fireplace D..... want (ran off  
 paper) | know about the Steward'ss account | going innto the Hop Com-*

<sup>1</sup> All proper names were written in full.



*mittee* | . . . And after the marching | we went over to the House | and then to the Psych. lab from | the house with L. . . . . W. . . . .  
 (This writing is apparently in accord with the directions given O; the accuracy of details cannot be checked up.)

Tests for anaesthesia of the right hand, at the close of the writing, are positive. Movements to be executed by the hand are not accomplished, though O thinks he has done them; but he has his left hand under full control. With the removal of the pencil from the right hand, feeling gradually returns, and full control.

E: Do you feel awake now? O: More than I did.

O: Do you connect with anything this beginning of more wakefulness? O: No; but I think your asking me so many questions woke me up.

E: Do you recall anything from hypnosis? O: No.

Tests of suggestibility are negative. Being shown the paper on which was the writing he had just produced, he does not recall having written it; nor does it call anything to mind. (The record does not state whether O was allowed to read the contents; but it is probable that he had a mere cursory glance. For further confirmation that O was unaware of writing, see the next experiment of the same afternoon—Exp. 8—and his reference, during the Interim Stage, to the present experiment.)

#### HYPNOTIC STAGE 2:

E: What were you doing at the table? O: Writing what happened this noon (apparently correct).

E: What did I ask you? O: What I did at noon (correct).

E: (Apparently in the hope of getting details.) What were you writing? O: What I did this noon.

E: Did two things seem to be going on together? O: Yes, I knew what I was writing for a few minutes.

E: What do you mean? That while talking you knew about your writing? O: Yes.

E: When precisely were you aware of it? O: When you asked me what I was doing. I forgot it immediately after I finished answering. (If O's words be taken verbatim, the record does not show that this question was either asked or answered. As O is probably correct in this remembrance, such an omission would be serious, since we are unable to compare his original answer with his present recollection. If, on the other hand, O's words be given a loose reference, they may refer to the question, "What happened this noon?" In that case O's answer to the present question and a few immediately following mean that when E questioned him about events that were also the theme of his writing, he became briefly aware that he was indeed writing about them, but directly afterward lost that awareness.)

E: Do you refer to my first question? O: To that and one or two others.

E: When I asked the question, you thought both of what you were writing and what you were saying? O: Yes, when you asked me the question about this noon.

E: Did my questions seem to influence your writing? O: I don't know.

(This revelation that the hand-group was united for brief intervals with the voice-group—a combination effected, apparently, by the special conditions of this experiment—leaves still a tract of the Interim Stage about which to draw conclusions for the main purpose of this experiment.)

E: When did you begin to feel less sleepy? O: After I finished writing.

E: Do you remember that I asked you that question while you were at the table? O: Yes.

E: What answer did you make then? O: That I felt less sleepy when you asked me so many questions.

E: Was that a correct answer? O: Not exactly—it seemed correct at the time; for I didn't know exactly.

E: Did the number mean anything to you? O: No.

E: What do you think of between questions? O: Nothing.

(Post-hyp. is lacking because a new experiment was begun at once.)

*Probative character of this experiment:* O selects a task to be done according to a previously arranged code and executes it, while, in some sense, unaware of what he is to do and, at least for a part of the execution, unaware that he is doing it. Later he recalls what he has done, though meanwhile without information from any source outside himself; and recalls the fact of dissociation (see Exp. 8).

*Associative relations among the several stages and subgroups:* With the aid of suggestion, Hyp. 1 is dissociated from the voice-group of Int., but not from the hand-group. There is no evidence as to its connection with Hyp. 2. In Int. the hand-group is part of the time dissociated from the voice-group and occasionally reunited with it, on the stimulus of questions that concern common areas of fact. Both are united again in Hyp. 2. A suggestion in Hyp. 1 is a factor in the stage succeeding Hyp. 2, as shown in the second experiment of this date (Exp. 8).

*Comments:* (1) While executing a suggestion unconsciously, O feels sleepy. This feeling passes off, says O in Hyp. 2, when the suggested function is ended; but in Int. he attributes the renewed alertness to E's continued questioning. (2) An important new feature of this experiment is the attempt to discover the effect upon the associative relations of the two groups in Int. of questions directed to facts known in common to both groups. That effect is to bring about temporary association, but is very fleeting. (3) The hand-group has a better access to the noon-hour events than the voice-group, if fullness of report be the test. (4) The force of the inhibitions that keep the groups apart is indicated by the fact that when the voice-group has access to a sight of the written paper, no pertinent memories arise. (5) Again we note the lack of thinking, in the hypnotized mind, when

left to itself. (6) The delusion of control over the right hand, when that system is dissociated, raises the question as to the felt signs of voluntary action. (7) The removal of the pencil from the writing hand seemed to be sufficient to remove the inhibiting impulse that conditioned the dissociation. In what group of psychic items was its locus? Does the hand-group "fend off" the voice-group? The latter seems in all these experiments to play a relatively passive rôle.

## EXPERIMENT 8.

May 27, 1920, 3:30 P.M.

O: G. E. H.

E: C. T. B.

R: H. W. L.

(This experiment immediately followed another on the same observer.)

## HYPNOTIC STAGE 1:

(Named so for convenience. It is identical with Hypnotic Stage 2 of Experiment 7.) Directions to O: When you waken I shall give you a book to read. If the number of lines in the fable is more than 10 you will say Boston automatically; if less than 10 you will say New York automatically, without knowing you have said it. (Directions repeated; then) Do you understand? (Affirmative reply.)

## INTERIM STAGE:

O recalls nothing that has just been going on. He resists suggestions directed to motor control, saying he would rather not lift his arm. He feels sleepy. Being handed the book he reads the fable aloud; and, finishing, he immediately says "New York," a correct fulfilment of the suggestion.

E: What is the last word you said? O: Pieces (the last word of the fable).

E: What have you just read? (O tells the story correctly.)

E: Were you doing anything else while reading? O: No. (Later in this stage, he contradicts this statement by his written word.)

E: Are you sleepy? O: No.

E: Are you more waked up than a while ago? O: Yes. I woke up gradually by reading, I guess.

E: Do you remember now what you did at the table? O: Yes—talking with you and writing about what I did this noon. I did not know I was writing. (Experiment 7 is here referred to; and this bit of evidence is referred to in the discussion of the probative value of the earlier experiment.)

E: What did you say when you finished reading the fable? O: I said "pieces."

E: Why? O: You asked me what the last word I said was.

E: Was that the last word? O: Yes.

O is now directed to sit at the table and, with pencil in his screened right hand, is given the opportunity to write, but without verbal suggestion to do so. The hand at once accepts the opportunity.

E: What was the word you uttered after the fables? O: (Speaks.) Pieces; (writes) *New York*.

E: What were you thinking about while reading? O: (Speaks.) Nothing except about reading the fable; (writes) *Counting the lines*.

E: Did you feel that you were giving attention to the case (i.e., the reading)? O: (Speaks.) Yes. (Writes an illegible scrawl.)

Tests of right-hand anaesthesia are now positive. During these tests the hand is writing the number series from 1 to 14, trailing after that into illegibility what may be intended for higher numbers in the series, and ending with a word-like scrawl. E gave no intentional suggestion for this writing. It may have been the expression of line counting or of the counting of touches impressed on his anaesthetic hand, or, indeed, have some other meaning. O is now plied with suggestions for sleep, which he does not accept.

E: But you want to, don't you? O: Yes.

E: But you don't intend to? O: Not unless you want me to.

(It is an error of technique that E did not question O as to whether he knew that he was writing and what the contents were. The answers, coupled with the proper inquiries and answers of Hypnotic Stage 2, might have made this important evidence.)

#### HYPNOTIC STAGE 2:

(Again, named so for convenience; this is really the third hypnosis in sequence.)

E: What was the last word you said after reading the paragraph?

O is silent, even when the question is repeated several times. He is then sent to the table and given a chance to write under the usual conditions, but without verbal suggestion to do so. The record has no entry as to the stimulus used to make O go to the table. It would seem that he must have been led; but one queries, of course, whether here, with apparent inconsistency, he responded to an auditory stimulus. The answers to the following questions, to the end of this stage, were all obtained in writing.

E: Do you hear me? O: *Yes*.

E: Why don't you reply to me? O: *I can't*.

E: Why not? O: *Because I can't speak*.

E: Do you want to speak? O: *I don't know. I can't hear what you say to do* (This word—if this be the one intended—runs partly off the paper) | *things*.

E: What do you mean? O: *I can't hear what you say | to do anything I can't hear you*.

By direction of E, R calls O by name.

E: Do you hear Henry speak? O: *Yes, but I don't*.

E: Don't what? O: *Hear him*.

E: Do you feel my touch on your hand? (Unfortunately the record does not show which one was touched; of course, E believes it to have been the writing hand.) O: *Yes, but I don't*.

E: Don't what? O: *Feel it*.

E: How can you feel it and not feel it at the same time? O: *I don't think I feel it but I do*.

E: Will you try to remember about this when you are awakened? O: *Yes*.

E: Do you think it will be hard to remember? O: *Yes. I don't think I can*.

E: Why? O: *I don't know*.

E: Let me see you lift your left hand. O: *I can't hear you*.

E: Do you feel comfortable? O: *Yes*.



E: Would you like to be waked up? O: *Don't care.*

E: Are you any more deeply asleep than usual in hypnosis? O: *In a different way.*

E: How different? O: *Don't know.*

After being given a suggestion that he will be able to recall the experience, O is awakened. This takes place without difficulty, and, presumably by the usual auditory cue.

(With regard to the main purpose of this experiment, it is an error in technique that, in Hypnotic Stage 2, O was not questioned about the line counting, to discover whether he could recall it and whether he felt that, at the time of counting, he was unaware of it. E's surprise at the turn taken by the experiment is the explanation for this omission. This seems to be supplied fortunately by the written statement on this point, obtained in the Interim Stage. But for the failure to inquire about this writing itself, and thus, if possible, to constitute it further evidence, according to our canons, there is no substitute. However, such an excellent case of instant, adequate verbal adaptation to the real past will seem to many to vouch sufficiently for its psychic character, without further logical prop.)

#### POST-HYPNOTIC STAGE:

E: What do you remember of the past period? O: I don't remember anything; it doesn't seem like anything to me.

E: Do you recall anything? O: No.

E: Are you trying to? O: I don't see how I can try to recall.

An interruption occurred at this point (length unspecified in the record) after which E resumes hopefully.

E: *Now* do you recall anything? O: No (but see below).

E: Do you want to? O: (Slowly) I don't know.

E: What do you recall, then? O: I have a general feeling of great confusion.

E: Do you recall anything before the last hypnosis? O: No (but his next answer shows recovery).

E: Do you recall anything from the afternoon's work? O: Yes—about the fable—something with pencils (which he sees lying on the table and which he says look familiar); but I don't remember doing anything with them.

E: What did I show you? O: 29. (Correct, see Exp. 7.)

E: Anything else—any other paper? O: No—just 29 on it (incorrect).

E: Any paper with automatic writing on it? O: No (incorrect).

O's right hand feels prickly as if asleep and his face numb. "Feels confused, removed by suggestion in hypnosis," runs the record.

*Probative character of this experiment:* While reading a fable so attentively that he is able afterward to give the story correctly, O, having forgotten what he was told to do, is counting the number of lines in the fable, interpreting the result by a code already known to E, and expressing the meaning by two spoken words—of all of which he is unaware *immediately afterwards*. Later, he recalls the counting and the words as spoken, without access meanwhile to any source of information outside himself.

In the foregoing, the only weakness, according to our accepted canons of proof, is the absence of a test for awareness, *while the alleged co-conscious process was in operation.*

*Associative relations among the several stages and subgroups:* Hyp. 1 is not associated with the reading-group of Int., and there is no evidence that it is associated with the (hypothetical) problem-group, though of course the latter has been causally determined by it. There is, again, no evidence as to its association with Hyp. 2, but positive evidence that it is dissociated from Post-hyp. The problem-group is apparently dissociated from the reading-group, and there is no evidence as to its association with Hyp. 2 or later integration with the reading-group. It is entirely dissociated with Post-hyp., unless "something with pencils" be a vague reference to it. There is no evidence as to whether the reading-group is associated with Hyp. 2, but for its association with Post-hyp. the evidence is positive, although O forgets one fact, viz., being shown the paper containing his writing.

*Comments:* (1) The auditory disconnection, apparently complete except for the waking-cue and, possibly, the stimulus that sent him to the table, is the new fact of interest. It is more inclusive than in the other experiment of May 27, 1920 (Exp. 7). Then O could not think how to speak; now he cannot hear. Unfortunately no attempt was made, in the present experiment, to discover whether O could vocally answer visually presented questions, or hear other sounds besides speech. So we do not know whether merely speech from auditory cues, or perhaps all sounds, too, were inhibited; or the vocal apparatus also. The latter, if inhibited, was not carrying on separate activity, whereas the hearing-of-speech function was evidently so doing. This coupled with the writing has the appearance of being both psychic and co-conscious, and its scope of knowledge resembles that of the usual Hyp. 2, in which O communicates by speech. All the mind-expressing organs of the body except the writing-hand seem to have been in the service of an unusually limited psychic-group. Perhaps it was felt as a dreamy, negative state. The external appearance of O would indicate that as much as anything. But one glimpse into its content is in its accessibility to the auditory

cue of waking and, possibly, to an auditory one for going to the table. The writing-hand insists on the fact of co-consciousness—that he hears but he doesn't, that he feels touches but he doesn't—and in conjunction with evidence from other experiments this is of great importance. But, by themselves, the facts of this interesting Hypnotic State 2 do not conform sufficiently to our canons to be accepted as evidence. These flatly contradictory statements of O indicate that the stage in which he makes them is broad enough to include two states, otherwise dissociated, whose peculiarities, as dissociated states, are, nevertheless, known all together in this stage. (2) In Int. O's sleepiness seems to be curiously on the verge of suggestibility. He resists, yet wants to go to sleep, but he declares he won't, unless E wishes it. (3) The automatic writing occurred without verbal suggestion; but to place a susceptible person in position for writing is probably to give him a pretty definite visual-tactual-kinesthetic suggestion. (4) The dissociation of Hyp. 2 from Post-hyp. despite a definite suggestion that it be remembered, is noteworthy. This dissociation is nearly complete—everything gone but a "general feeling of great confusion." When told that he was to remember, he expressed serious doubt of his ability to do so, without knowing why it should be so difficult, but adding that he was asleep in a different way than what was usual for him in hypnosis. He was unable to characterize this difference. That this dissociation was in some sense motivated is hinted by his statement that he does not know whether he wants to recall the forgotten experiences. The problem of motivation versus passive disconnection is here opened up for all hypnotic dissociation. (5) The bodily members connected with the dissociated experiences—right hand and face—show an altered sensory state; the hand is now anaesthetic, now prickly; the face is numb. (6) When O in Int. declared that he felt he had been giving attention to the reading, the hand is apparently moved to some sort of resistance or modification of statement; but in its turn is subject to some inhibition that reduces the writing to an illegible scrawl.

## EXPERIMENT 9.

(Three experiments in one.)

April 26, 1921, 2 P.M.

O: G. E. H.

E: C. T. B.

R: J. L. B.

The experiments here reported formed a part of a larger one designed to determine the means by which a hypnotized person could pick out, with almost infallible certainty, one sheet of blank paper from many other similarly blank sheets as the one on which he had previously seen a (suggested) portrait. It is included here because it seems, incidentally, to furnish evidence for coconsciousness.

## HYPNOTIC STAGE 1:

E speaks: I am going to show you a card. On that card you will find a picture of Abraham Lincoln. Have you ever seen a picture of him? (O says "yes.") You will be able to open your eyes and still stay quite asleep.

A blank oblong of light blue cardboard, about two and one-half inches by four inches, was put into O's hands, his eyes being open. This card he had been unable to distinguish from other similar cards outside hypnosis.

E: Can you see the face? O: Yes.

E: Describe it. O: Side whiskers—looking straight at me.

E: How much of him is represented? O: Just the head and shoulders.

E: How do the eyes look? O: Looking straight at me—usual picture.

O then closed his eyes, while the card was inserted as one of a pack of ten similar cards, about seventh from top and right side up, behind O's back. The pack was handed to him, with directions to pick out the picture he had just seen. In one and two-thirds minutes, O said that he did not see it. Being asked whether he was deeply asleep, he nodded his head; and tests showed him to be fully suggestible.

He was then handed the same card as before, and was told that it was a picture of Washington.

E: Describe it. O: He has on a powdered wig; is looking a little to the right—a full-length portrait. He has on a Revolutionary coat and sword, buff colored trousers which are quite tight, shoes and buckles.

E: Have you seen a picture like that before? O: Yes.

E: Where? O: In an engraving.

The card was then placed right side up in the former pack, about seventh from the top, and O was asked to pick out Washington's picture. He examined them in order for one and two-thirds minutes; and on reaching the correct card he said "I think this is it," and looked no further. The other cards, said he, were also pictures, and he called one Madame de Pompadour.

E: How did you recognize the pictures of Washington? O: I can always recognize his picture. It is full length. I didn't see any other of him.

E: How did you recognize the picture of Madame de Pompadour? O: I have just been studying it, (and he went on to give a full description—dress, books, globe, music, etc.).

These answers are pretty nearly what one would expect from a person who had really been looking at a portrait.

## INTERIM STAGE:

E: Are you awake? O: Yes.



E: What has happened? O: I can't remember. The last thing I can recall is a feeling as though waves were rushing down over my head. They go farther and farther away—and then I woke up.

Sitting at the table (whether at E's request or spontaneously, does not appear in the record), with a pencil placed by E in his screened right hand, he began at once to write spontaneously. At the same time he discussed with E this experience of hypnotic induction, laughing and talking easily. He repeated the multiplication tables of twelves and elevens, going in the latter to  $18 \times 11$ .

E: Can you still repeat those verses by Amy Lowell with which you amused me last year (referring to "Gargoyles")? O: (laughing) I can't remember them.

E: Are you awake? O: (laughing) Yes, of course.

E: What are you doing? O: Talking with you.

E: What are you doing with your right hand? O: Nothing. I have a pencil in it.

E: What have you been doing with it? O: Moving it around; but I haven't been thinking about it.

E: Tell me when you feel a touch (proceeding with the test which showed that the writing hand was anaesthetic to the wrist). O: My hand feels asleep. (later) My hand is so asleep I can hardly tell. (He hesitated in making answers; and said usually: "I think you touched me.")

A test further showed that the writing hand was suggestible, though O felt that he was in full control in all parts. When the screened hand was brought once more into view, O felt all touches upon it while looking at it.

Meanwhile O's screened hand had been writing spontaneously. E moved the paper occasionally, and sometimes moved the hand into position, lifting it by the sleeve. Once in a while E, during his talk with O, looked at the writing and at the hand producing it. This method was followed throughout this experiment. The writing was as follows:

*Washington . . . Mme de Pompadour portraits | . . . Revolutionary coat . . . | . . . | brass buckles . . . on shoes | . . . | heavy white & gold | dress . . . globe to represent her interes (E moved the paper here to start O on a new line) | interests in books music I can always | pick . . . portraits . . . oranges | . . . | . . . | gold white . . . | . . . | . . . gold . . . | . . . white . . . | . . . dress . . . | . . . | Gargoyles A Comedy of Exag | (After writing this title of a poem O began a new line spontaneously.) Thimble . . . |*

The contents of this writing refer to the experiences of Hyp. 1, with the exception of the part beginning with "Gargoyles." Here the poem is not correctly named, "Exag," obviously abbreviated from Exaggeration, being substituted for "Oppositions." The first line is correctly started. Its occurrence here is apparently due to the question about it, put to O during this same Interim Stage and which he laughingly declared he could not remember. It is of course possible that the little he wrote was known to him in his dominant state, in spite of his declaration of ignorance; he was not tested upon this. The source of "oranges" is in certain suggestions made to test the depth of Hyp. 1.

#### HYPNOTIC STAGE 2:

O was told to take his seat at the table on awaking, and write automatically, without being aware of it, the real basis of distinction by which he recognized the picture of Washington.

## INTERIM STAGE 2:

In answer to a question O stated that he recalled nothing of Hyp. 2. Rising and moving toward the table he was asked why he did so. Because he thought he would, was the reply. At E's request, he recited some of Amy Lowell's poetry. He also gave an account of what he had been doing all day. Reciting with difficulty some college songs, he took part in a bantering, laughing conversation. He was asked, with reference to each hand and foot, in successive questions, whether E had moved it. He replied in each case: "I don't think you have." He was also asked, severally, what he was doing with each hand and foot, and to each question he replied "nothing." He was not suggestible except in his concealed right hand, which was also anaesthetic as far as the wrist. He declared that he felt all right in every part; and yet, when E placed two hands on O's two hands, O said his right hand felt asleep, and that he could not feel E's hand on it. Being asked as to whether he felt that he had good control of both hands, he replied that he was not sure, because his right hand was so fast asleep. Referring to Int. 1, he commented that he was not quite as usual; he was day-dreaming.

E: Are you now? O: No, but I have been while sitting here this time.

E: Why do you say so? O: I felt differently. I didn't think of it at the time; so the difference must appear only in retrospect.

E: Can you recall any of the day-dream? O: No.

The screen was removed. When O's eyes were closed, his right hand was still suggestible; when his eyes were open, he refused to obey, but with difficulty. At this time he wrote the following introspection:

"My eyes were closed and I was told to raise my left hand, which I did. Then I was told to raise my right hand (but told also that he could not succeed) which I also did, both hands being raised with customary ease. I was then asked if my hands were up, and I answered that of course they were. I was told to open my eyes; and much to my surprise, my right hand was *not* raised from the table. I thought at first that I could not believe my eyes, because my right hand *felt* raised just as much as my left hand, which actually was raised. Of course I finally had to believe my eyes; but the situation was very startling and confusing. It came down to which sense I would believe really, because feeling told me it was up, and sight that it was down."

Then E took up the questioning again:

E: What has been happening of importance? O: Talking with you.

E: You have been writing. What have you written? O: I didn't know that I was writing; so I don't know what I wrote.

Meanwhile his hand had been producing the following:

*By seeing the marks | although I didn't know | it . . . | only by marks  
marks marks | marks marks marks | marks marks marks | marks marks on the  
paper paper | marks on the paper*

This was the content of a single sheet. Much more was written to the same effect and with the same iteration but without further new ideas. All of it constitutes the response to the suggestion given in Hyp. 2. That the statements are true, that this is the actual basis for this well-known capacity in hypnosis, has been shown in certain unpublished experiments by E, of which the one now being reported constitutes a part.

## HYPNOTIC STAGE 3:

E: Now I want you to tell me what you were doing at the table. O: Talking with you and writing.

E: What? O: How I told (recognized) the photograph.

E: How did you? O: By marks on the paper.

E: How can you remember now if you were not aware then? O: I don't know.

E: Did you know at the time, that you were picking out the picture by these marks? O: No.

E: How do you know now? O: Because that is what I wrote. I thought I was picking it out by the picture. I saw others beside the one desired.

E: Do you remember directly, now, how you did it? O: I don't think so—except by the portrait. I think I see the marks and then see the portrait right off.

E: Is this recalled from the original experience? O: No, I only saw the portrait then.

E: Why do you think so now? O: Because that is what I wrote.

E: Might you not have written what wasn't so? O: No.

E: Why are you so sure? O: You told me to write the reason; so I wrote it.

E: Were these marks easy to find? O: I don't remember.

E: Do you recall looking for any other beside Washington? O: Yes—Abraham Lincoln.

E: Did you find it? O: No.

E: Why not? O: Because he wasn't there.

E: How could you tell? O: Because so many were upside down, I couldn't tell.

E: What were upside down? O: The pictures.

E: What made you think them upside down? O: Because they looked that way. (This, of course, may have happened, but not intentionally, during the progress of the experiment. In the larger whole of which the present experiment formed a part, one, at least—the critical card—really was turned upside down, and possibly others.)

E: Were you trying to recognize Lincoln as you did Washington? O: Yes, by the picture.

E: You said you recognized Washington by the marks on the paper. O: I don't remember doing that.

E: When you waken you will write for me automatically the real reason why you failed to recognize Lincoln.

#### INTERIM STAGE 3:

O went to the table without further direction and his hand began to write behind the screen. He said that he recalled nothing which had been going on; that he had felt asleep. At E's request, he named the states of the Union, forward and backward, using, he said, visual images to recall them; and he also named the Presidents but not in their order. Tests showed anaesthesia of the writing hand as far as the wrist.

E: What are you doing with your hand? O: Holding a pencil in it.

E: Are you awake or asleep? O: Awake.

E: Are you day-dreaming? O: While being touched. (The right hand was not the only part touched in the tests for anaesthesia.)

E: At any other time? O: Yes, pretty nearly all the time.

E: Is this different from your ordinary experience? O: Yes.

E: What do you mean by "day-dreaming"? O: Not being so aware of things around me, not so alert.

E: Lift your left hand. O does so.

E: (pressing his hand down over O's right) Lift your right hand. (E felt a little lifting movement under his hand but not much.)

E: Have you done so? O: Yes—one hand was raised as high as the other.

E: Is one hand as free as the other? O: Yes, so far as I can tell.

The writing was this:

*I didn't notice the|marks on the . . . paper|. . .| . . .  
marks on the paper marks|nkansasn . . . marks|no marks . . .  
paper|. . . (This line to this point written from right to left) . . .  
marks . . .|. . . marks on the|paper . . . paper . . .|  
no marks on the paper|like Lincoln's picture|. . . (with right-to-left  
return of the foregoing toward the end) . . . marks | on the paper paper |*

The truth of this statement, given in response to the demand for information on this point made in Hyp. 3, cannot, of course, be objectively verified, but is in accord with the basis of judgment in such matters, as already stated in this experiment, on the ground of experimental evidence.

The meaningless intrusion of a single state name out of the voice-group is puzzling.

#### HYPNOTIC STAGE 4:

E: What were you writing? O: The reason why I couldn't find Lincoln's picture (correct).

E: What was it? O: I didn't see the marks (that were) on Lincoln's picture (correct).

E: What sort of marks? O: Flaws on Lincoln's picture that I could see. I wrote that I found the photograph by flaws. I remember the flaws. (But he does not remember using them as a clue to the portrait. See below.)

E: Was what you wrote correct? O: It must have been.

E: Why do you say "must have been"? O: Because I don't remember that it was.

E: Do you mean that you had access to information when writing that you haven't now? O: I did before I wrote.

E: How much before? O: Just as soon as you told me to write it.

E: While you were hypnotized? O: Yes.

E: Did you at that moment actually recall? O: Yes.

E: Can you now recall? O: Perhaps.

E: Try. (then, after a pause) Have you succeeded? O: I can't think of it very well.

E: Now you can. O: Yes, I remember it now.

E: Remember what? O: How I found the portrait.

E: How did you find it? O: By the marks on the paper.

E: Were you aware at the time of how you were finding it? O: No.

E: Is it easier to talk of your experiences or to write of them? O: I don't like to think of them.

E: Why? O: Too hard.

E: Would you rather I didn't suggest that you remember them when you wake up? O: I don't care.

E: You will be able to recall these experiences easily, without effort. You will remember if you wish to.

#### POST-HYPNOTIC STAGE:

O felt more awake than ever. He recalled hallucinations from Hyp. 1; he remembered about writing (not the act—see below) but not what he had



written; he remembered telling about the content of the writing but could not recall where or how he got the information. He remembered telling, not writing, it. He recalled also being told to do various things—raise his hands, etc.

E: Did you feel much different at the table from the way you felt in the easy chair? O: No—not much of a breaking point between them.

E: What was the situation in the easy chair? O: I was hypnotized. At the table I felt more like myself but not quite. There was a feeling of oppression; I wanted to throw off something and be awake.

E: Do you feel that way now? O: No, I don't. In the Interim Stage at the table, when asked how I felt, I would say I felt awake the same as ever, and it seemed so; but just before and just after the question everything seemed hazy and not free.

E: What did you feel about the suggestions for hand movements? O: It seemed to me that I was executing the right-hand movements; but as I felt no good report from that hand I wasn't sure.

E: You don't usually remember these things when you come out of hypnosis. O: You told me to.

E: Do you care to? O: I prefer to.

E: How do you feel preference? O: In the Post-hypnotic stage the attempt to recall is disagreeable. (The term "post-hypnotic" presumably means here any one of the interim stages also.)

E: What was the difference, in and out of hypnosis, in the reasons for wanting to remember? O: In hypnosis, because you want me to remember; out of hypnosis, because I'm curious to know what took place. It is disagreeable even now to try to recall how I pick out the picture. (This was done in hypnosis, which, however, O declares below to be agreeable.) I remember about them but not the things themselves. I can remember telling you (*i.e.*, in hypnosis) how I did it but I don't want to remember the "how" itself; I am not remembering it now. I have often noticed this.

E: Do you think you could remember the "how"? O: Yes, I think I could.

E: Why is it so disagreeable? O: Because the original state (meaning as shown below, an interim stage) was so confused. While in that state I was not bothered by it. It seems muddled and unreal—not the way I usually think. It is much more agreeable to be hypnotized than to be in one of those interim states. In hypnosis you take things as they come; in the interim state you have to sort of keep awake. It is perplexing to think of things then which you are able easily to think of when hypnotized. (Yet, in Hyp. 4 he declared it was "too hard" to think of how he had picked out portraits in hypnosis.)

There is apparently some contradiction in O's comparisons between hypnotic and interim stages. These would all be resolved if we suppose that the open-eye hypnosis of Hyp. 1, in which O picked out portraits, was more like interim states than like his usual hypnotic experiences. His introspection seems to indicate that they felt more alike; and they have in common the important character of dissociation (or at least physical disconnection) of processes.

*Probative character of this experiment:* There are three parts to the evidence, corresponding to as many instances of writing, and taken here in their original order.

1. O spontaneously writes about matters of which he has previously been talking but has, in some sense, now forgotten. In this writing he also generalizes a little on the earlier situation ("I can always pick portraits") and starts to write—and correctly—other matters which he declares he has forgotten—all this, while in some sense unaware of his writing and while carrying on an animated conversation and repeating multiplication tables. No sufficient attempt was made to find out whether he could later recall what he had been writing.

2. In two instances, while occupied with other matters requiring attention, and not able to recall certain directions given to him, he carries these out, though in some sense unaware of his act; and in so doing contradicts his own earlier statement. Later he recalls this act and the content of his writing, without access, meanwhile, to any source of information outside himself.

*Associative relations among the several stages and subgroups:*

The following summary gives the facts:

Hyp. 1, with Int. 1, hand-group only (Hyp. 2 not tested); with Int. 2, hand-group only; with Hyp. 3, according to O's assertion in Hyp. 4; with Int. 3, hand-group only; with Hyp. 4 and Post-hyp., each, at least in part.

Int. 1, hand-group; not with Post-hyp. (other stages not tested). Voice-group, with Int. 2, in part at least (other stages not tested).

Hyp. 2, with Int. 2, hand-group only; with Hyp. 3 (later stages not tested).

Int. 2, both groups with Hyp. 3 (Int. 3 and Hyp. 4 not tested); voice-group possibly, but not the hand-group, with Post-hyp. The contribution of this voice-group cannot be distinguished from the corresponding contributions of the next interim stage. Nor indeed can we tell whether each does contribute.

Hyp. 3, with Int. 3, hand-group only (Hyp. 4 not tested); with Post-hyp., possibly, but it is impossible to distinguish between the contributions here of Hyp. 3 and Hyp. 4, nor can we be sure whether each does contribute.

Int. 3, hand-group, with Hyp. 4; not with Post-hyp. Int. 3,

voice-group (Hyp. 4 not tested); with Post-hyp., possibly. See above.

Hyp. 4, with Post-hyp., possibly. See above.

In all the foregoing there was no aid to recall furnished intentionally by suggestion from E except in Hyp. 4 in two instances, one to take effect in that same stage, the other in Post-hyp.

From the foregoing facts one may conclude that, so far as tested, the several hypnotic stages were all synthesized in Post-hyp., and the voice-group of the Interim Stages was also; but that the hand-group of all the interim stages remained dissociated from the final synthesis.

*Comments:* (1) How much is the voice-group aware of the writing hand? The record of the three interim stages shows (a) that O was aware of holding the pencil (Int. 1 and 3; no test of Int. 2), (b) of moving it around but not thinking about it (Int. 1), (c) of doing nothing with it (Int. 2), (d) that this hand felt asleep (Int. 1 and 2), (e) that he had illusions of control over it (Int. 1, 2, 3). At no time was the voice-group aware of the meaning of the hand movement. (2) This experiment shows that for dissociation in interim stages no special suggestion that O will not know what his writing hand is doing is necessary. This suggestion was not given for the first interim stage and was given for the other two, yet in all three O was unaware that he was writing. (3) In all the interim stages there was motor dissociation (disconnection) of the writing hand from the voice-group. This function was restored to the voice-group again by aid of vision, but with difficulty (Int. 2). (4) Anaesthesia again characterizes the writing hand, and touch is restored when the hand can be seen (Int. 1). That is to say, touch is integrated with the voice-group once more by aid of the visual function. (5) Felt characteristics of the interim stages—dreaminess, haziness, lack of freedom, oppression, sense of something to be thrown off—disappear at once before the question, "Are you awake?" but return immediately after answer has been given. (6) O's statement in Hyp. 3 implied that Hyp. 1 was a double state, *i.e.*, one of co-consciousness; but being further questioned, it appeared that he did not recall directly a second group of experiences but

only his writing about that group, just as, later, he was able to recall not the writing but only telling about it.

## EXPERIMENT 10.

May 3, 1921, 3:15 P.M.

O: J. L. B.

E: C. T. B.

R: G. E. H.

(See introductory note to Experiment 9.)

## HYPNOTIC STAGE 1:

O is told that he will be shown a card on which will appear a portrait of Washington (the card, of course, being blank). He remarks that he knows Roosevelt's portrait better. So E hands him a (suggested) picture of Roosevelt instead. O describes the portrait. This card is then put aside down into a small pack of similar blank cards, and O fails to find the portrait again. E gives him the same card again, in the original position, asking whose portrait it is. The record of the reply is as follows: "O answers George Washington. This is Roosevelt, says O—about like the other, but in this one hasn't glasses on—did in the other—suggests, himself, pictures on the cards—McKinley, Wilson, Harding. Correct judgment given in 40 Sec. Card D (one used in the earlier Roosevelt experiment. C. T. B.) was used again, not reversed." From the tenor of this statement and of the following dialogue, it seems warrantable to doubt that R has inserted Washington in the correct place in the record. O's recognition of other portraits was due to E's suggestion that he do so;—O remarking that it seemed to be a series of the Presidents; and occasionally passing over one as not identifiable.

E: How did you recognize Roosevelt? O: By his features, especially his smile.

E: What were you thinking of between times? O: Presidents, I guess.

E: Are you sure you recognized the pictures by characteristics of features? O: Yes, the same as any picture.

E: When you waken, go to the table and write for me the real basis by which you distinguished the picture of Roosevelt. You will be unaware that you are writing and will be able to converse meanwhile.

## INTERIM STAGE:

E: What do you remember? O: Good nap (going to the table and sitting down), just like being asleep. (It is an error, perhaps, that O was not questioned further on this point, to make sure he could not recall.)

He describes the feeling of on-coming hypnosis; his inability to recognize its arrival. Meanwhile his right hand is writing. He describes further, how he goes to sleep; then—spontaneously—what he did the night before,—the dreams he had, etc. He converses rapidly, easily, entertainingly. Once, early in the writing, in a pause of the conversation, he had a far-away look.

E: What have you been doing? O: Talking about dreams, describing how I go under hypnosis, etc.

E: Was anything else happening? O: No, only your touching me. (This, presumably, refers to check tests on other parts of the body. Tests for anaesthesia of right hand had been positive as far as the wrist.)

E: Are you awake or asleep? O: Awake.

E: Sure? O: Yes.

O has no control over the writing hand, but over his other limbs he has.



For example:

E: (in a loud and confident tone) Now, you are going to lift your right hand (which is, of course, behind the screen). (O obeys.)

E: Now you can't put it down. O: Yes I can (but he does not).

E: Are you awake? O: Yes, sure!

O says that his hands are cold, that he can't feel with his right hand, though he can with his left. When E takes the screen away, O regains control. Now follows a test of suggestibility, the right hand being visible to O.

E: You have to scratch your ear with your right hand. O: (scratches it with his left hand. He says that he must look at his right, to make sure it doesn't scratch the ear; he doesn't dare look away. But he succeeds in refraining.)

E: Is your hand all right now? O: (Finds it numb.)

E: What was on the table? O: Paper and writing. (This had been carelessly left in view when the screen was moved, apparently without actual harm to the experiment, as shown by O's next reply, but regrettably bungling.)

E: What was the writing? O: I don't know. I thought you wouldn't want me to read it. I had no inclination to do so; didn't care what it did say.

O is then told to put his right hand again behind the screen; he does so and shuts his eyes.

E: You can't lift your right hand. O: (Hand does not rise.)

E: Did you do this (*i.e.*, lift your hand)? O: Yes.

The screen being removed, O reports that his right hand is numb again. During the foregoing events of Int. the following writing was produced. It was interrupted, partly by tests for anaesthesia, partly because E did not allow further opportunity for trial.

. . . I chose the picture | of Roosevelt | by the marks marks | marks  
marks marks | marks | by the mark by the marks | Roosevelt, McKinley  
Roosevelt by the marks marks | by the marks | marks by marks | Washing-  
ton | McKinley Roosevelt grant | . . . | McKinley no picture | Roosevelt  
Roosevelt | Roosevelt McKinley | Roosevelt . . . |

#### HYPNOTIC STAGE 2:

E: What were you doing at the table? O: Talking to you about dreams. You were touching my right hand.

E: Did you know it? O: Not then.

E: How now? O: Don't know. Perhaps I knew it then but didn't think about it.

E: Were you aware then when I touched your right hand? O: Yes, I knew it.

E: But you didn't say so. O: (hesitates) Don't know.

E: What does that mean? O: I've forgotten the question.

E: (Repeats the question.) O: I didn't know it then but do now.

E: When did you get the information? O: I remember it now.

E: Remember it now and not know it then? O: Yes.

E: Does this seem contradictory to you? O: You told me I wouldn't know I was writing.

E: Does this seem contradictory to you now? O: No.

E: You could raise your left hand, though. O: You didn't tell me anything about my left hand.

E: Did your right hand obey you or me when suggestions were given?  
O: When I wasn't looking at it, it obeyed you.

E: Was it obeying you the rest of the time? O: Yes.

E: How could you tell? O: Felt as though it was.

E: How could you feel it was obeying you and yet know it wasn't? O: (hesitating, a look of troubled effort on his face; then after a long pause) I forgot the question.

E: Did you notice what I whispered to R? O: No.

E: How could you feel that your hand was obeying you and yet know that it wasn't? O: I didn't know that it wasn't.

E: How do you know now? O: Part of me must have known, because I can remember now, though I didn't know then; that is, I didn't think about it when talking to you.

E: Were you the part that was talking to me or the part that was writing? O: The part that was writing.

E: Who was talking to me? O: That was—(hesitates) I don't like to talk about that.

E: Why not? O: I don't like to think it was anybody else.

E: Did you feel quite natural while talking at the table? O: I don't know whether I was talking to you or not.

E: You don't remember how you felt? O: I felt all right.

E: Who was talking to me if not you? O: (Silent. The record adds "uncomfortable, O says, doesn't like to think about it.")

E: Do you want to remember about this when you waken? O: I don't care—yes.

E: Was it true when you said, on waking formerly, that you didn't remember what happened? O: Yes—I knew about it, though.

E: And that wasn't you? O: (after an effort) Yes, that was me. The suggestion is then given to O that he will remember on waking.

#### POST-HYPNOTIC STAGE:

E: What does your present state seem like? O: Waking up from a nap. Not so clear as I usually am on waking up,—a dazed feeling, like when you wake up suddenly.

E: Do you recall what has been happening? O: Pictures of Roosevelt and Washington—Roosevelt's twice (correct).

E: What happened more recently? O: You told me to write at the table. I don't know what went on then—something about dreams. I don't remember these things so well. Then you asked me if I had been writing at the table (really, what he had been *doing*). I can't remember other things except confusedly. I remember telling you about writing but not the writing itself. I remember your asking me questions about it but not just what they were. (Correct answers with the exception noted above.)

E: Do you now recall it? O: You asked me how I could write (really, feel the hand was obeying and yet know it was not) and not know it; but I have forgotten what I told you.

E: Can you tell me now? O: No, not by introspection. It seems as though first part of hypnosis was smooth and clear; then it became very confused. I don't feel as if I wanted to remember.

E: There is no other quality of this last hypnotic period that you can recall? O: I feel as if it was not very pleasant. I don't like snarled up things.

E: Would you like to recall all? O: I don't want to make the effort.

E: If you could without effort, would you like to? O: Don't know, sometimes I think I would, then that I wouldn't.

E: Did the last hypnotic state feel deep? O: Yes. After such I usually recall that something has happened, but not precisely what.

As the foregoing experiment failed to show later knowledge of the original contents of the writing and as our canons of proof required this to be shown, a supplementary inquiry was undertaken on the same observer two days later (May 5, 1921, 2.00 p.m.) The original comment on the record, made close to the time the record itself was produced, states that he had, meanwhile, no access to outside sources of information; but it neglects to state how E was assured of this. In Hyp. 1, O was approached as follows:

E: I want you to recall for me what you wrote at the table a few days ago. O: Didn't know I was writing.

E: What did you write about—what was the content of the writing? O: What you had told me to.

E: What was that? O: How I picked out the picture.

E: How did you? O: By—(hesitates) the marks on the paper.

E: Do you remember what words you used? O: By the marks I picked out the picture of Roosevelt. (The original statement ran: I chose the picture of Roosevelt by the marks.)

E: Did you use these phrases? O: I think so—hard to remember.

E: Do you remember anything else you wrote, if anything? O: Something about Washington. I wrote by the marks two or three times because I wanted you to understand. (The objective facts here stated are correct but understated.)

E: Try again to remember anything else you wrote. O: I wrote Lincoln (this may perhaps be the final illegible word); and by the marks three or four times.

E: Have you heard anything I have said to George? O: I heard it but paid no attention to it; I didn't think you were talking to me.

E: Can you tell what was said? O: Once you said: "Did you get that?" and then: "Is this going too fast for you?" I don't think I heard anything else. (He speaks very slowly, knitting his brows and compressing his mouth—characteristic of him in hypnosis in this experiment and that of May 3, 1921.)

E: Can you tell what George has said in reply to me? O: Once he said: "What was that after that last question?" and once he said "yes"; and once he said "Yes, I've got that." I don't think he said anything else—yes, he said "What?" once or twice.

E: What are you thinking of now? O: Not thinking.

E: Having any experience at all? O: No—answering questions; and I can hear you asking questions and some one else speaking (voices from below).

E: Any spontaneous thoughts of your own? O: No.

*Probative character of this experiment:* O writes comments, pertinent and according to a plan, concerning his own earlier actions. He is in some sense unaware of so doing and, at the same time, engaged in animated conversation. Later, without access to outside sources of information, he is able to report with little error leading features of the content of that writing.

*Associative relations among the several stages and subgroups:*

Those of Hyp. 1 to later stages were not, so far as the record shows, fully investigated. A general statement of O, which, on its face, includes the present case, seems to justify the statement that vague associative relations persisted with the voice-group in Int. With the hand-group, the connection was close, also with Hyp. 2, though the breadth of connection here was not investigated; and, by suggestion, close connection persisted with Post-hyp. Int. showed mutual dissociation between the partial groups, these in turn being partly reunited in Hyp. 2. By suggestion the voice-group persists in Post-hyp., but the hand-group disappears unless it be as an awareness of a mere somewhat. Special items of Hyp. 2 are associated with Post-hyp.

*Comments:* (1) In some way O felt that he was controlling the movements of his right hand; yet he knew later, without information from anyone else, that he was not. In some way, too, he could feel no touches on his writing hand, but afterward knew that he had been touched there. (2) Ordinarily such a question as, "What have you been doing?" is sufficient to call one's attention at least to the unusual features of one's conduct. Not so in this case in Int. (3) It is interesting to see the "struggle" of the visual function to retain in its group the right-hand-tactual function. When the right hand passed from view its tactual functions became at once dissociated. In the struggle the left hand seemed to assist by taking the suggestion given to the other. Even when the right hand was made visible its tactual-kinesthetic function was altered; it felt numb. Is this an associated sensation, appearing because usually accompanying this type of situation? The hand also felt cold to O. There is no indication in the record that this was tested. It was, however, not improbably an objective fact, for E noted that at least one other observer's writing hand seemed quite cold to E's touch. So it may be that the felt numbness had a peripheral basis. (4) The writing contradicts the statement made in Hyp. 1. In the latter O asserted that he recognized the pictures by characteristics of features "the same as any picture"; in writing, "by the marks," "no picture." (5) Hesitation, troubled effort, silence



were characteristic behavior of O when he tried to face the apparent contradictions in his introspection. (6) One may remark on O's apparent indifference, in hypnosis and the Interim Stage, to what he does not think is meant for him.

## EXPERIMENT 11.

May 18, 1921, 2:45 P.M.

O: J. L. B.

E: C. T. B.

R: G. E. H.

## HYPNOTIC STAGE 1:

The following directions were given to O: When you waken you will sit down at the writing table. I will show you a number on a piece of paper. If it be in ink of one color you will make automatically for each digit a corresponding number of circles, in a row, row under row; if in ink of two colors, use crosses for red ink digits and circles for those in black. Otherwise proceed as in the other case. (These directions were repeated; and then) Do you understand? (Affirmative reply.)

## INTERIM STAGE:

O goes to the table and sits down, putting his hand behind the screen spontaneously, as both he and G. E. H. do regularly in such cases.

E: What do you remember? O: Nothing.

E: Is it a blank? O: Not quite. I feel as if something is there.

E: What is the difference? O: As if something is there. I don't know what.

E: Is it like a forgotten name? O: I have no desire to think of this. I am annoyed to forget a name; but not this.

E: Can you say the multiplication table of 9's? (O does so.)

E: (showing O a card bearing the number 724, the 2 in red, the others in black) What's that number? O: 724.

E: What is its meaning to you? O: Nothing; just 724.

E: Does it remind you of anything? O: No. I think I had a key like that once (with doubtful smile).

E: Is that all? O: Yes.

E: Can you describe the present situation? O: I am sitting in a chair, talking to you. You showed me a number, meaning nothing, in two kinds of ink. I've been trying to describe what I was thinking about.

E: What else went on? O: George (R) writing at the table—nothing else.

E: (who has been making some movements behind the screen) What do my actions make you think of? O: Asking questions, showing me numbers, looking behind screen.

E: What does looking behind the screen make you think of? O: That I might be writing.

E: What is your right (writing) hand doing? O: Nothing.

E: Can you catch it in anything? O: No.

E: Your left hand? O: Yes, if I were doing anything with it.

E: What do you hear? O: (who is actually making perceptible scratching noises with the pencil, while writing) Train moving, batted ball, George writing, his chair creaking, minor noises. I could identify them if I tried to—rustle of clothing, etc.

E: What are you doing with your right hand? O: Nothing.

E: Do you surmise that you are doing something? O: Yes, that I am writing, because I have done it before.

E: Do you feel it doing anything? O: No.

During the foregoing conversation O was writing as follows in an irregular, cramped hand:

*I am to make the I* (written before the number was shown. Then follows, in strict accord with the original suggestion, in three rows under each other, seven circles, two crosses, and four circles. Then the writing continues.) *Circles for black numbers | and crosses for red ones | in parallel rows. If in one . . . | (new sheet) If one colors I am to | show and if two colors I am to make . . . | circles crosses circles & crosses | There are two colors ci | circles & crosses different color of ink | crosses . . . crosses*

One should observe that the statements made in the foregoing writing are correct; also that an interesting substitution of the appropriate word "parallel" has been made for the phrasing used in the original directions.

Tests now made for anaesthesia are positive on the writing hand even half-way up that forearm and beyond. O's manner of acknowledging the stimulus in that region in comparison with other parts of the body, is slow, hesitant, indicating that he barely feels it, as the following exchange shows:

E: Why the difference in tone when saying yes (word used to acknowledge a felt stimulus)? O: Sometimes you touch so lightly I hardly know whether you are touching or not. (Needless to say, this was not an objective difference.)

E now proceeds to determine whether stimuli on the anaesthetic area can be shown to produce in O conscious effects of whose origin he is unaware.

E: Please settle back quietly and tell me what number comes into your mind. Think of counting up the units that make up some number, for example, 1-2-3-4-5-6 for six, 1-2-3-4 for four, etc. Then tell me what number comes into your head.

Touching with the blunt end of a pencil the anaesthetic hand, in each case, the intended number of times, E used the following series: 2, 3, 5, 4, 7, 1, 6, 9, 8.

O: First number I-thought of was 13.

E: When? O: A few minutes ago. (In this case enough time had elapsed before the stimulus was given to permit a choice in advance. The stimuli were given more promptly thereafter, at the rate of about three in two seconds.)

E: Think again. O: 9.

E: Again. O: 7.

E: Once more. O: 4.

From this point O's replies agreed with the stimulus. Once during the series, a query or perhaps a mere glance from E that meant curiosity as to the source of these numbers, made O say, "Any object to take numbers from,—as when George tapped his pen against his head."

At the conclusion of the series a test for anaesthesia of the right hand was positive. Then occurred the following conversation:

E: Where did you get the numbers? O: All sorts of places—some just thought of.

E: How did they appear in your mind? O: Association. Was trying to think of numbers—lucky 2, unlucky 13. Don't know how the rest came—sometimes from George's motions—not consciously though.

E: Did you have any sensory imagery with the numbers? O: Don't remember. Don't think so. May have been, but I don't remember now.

E: Do you recall anything else of significance to report? O: No. (E insists.) O: I can remember something but—

E: What was that? O: I imagined the numbers as little white dots representing units of numbers. I'm not sure I had this at the time though.

E: Shake hands with me. (O would of course naturally use his right, i.e., anaesthetic, hand.) Have you? O: Yes (incorrect).

E: How does your hand feel to you? O: Normal.

E: Tell me when I touch your hand. O: It feels numb. I can't tell when you do or don't.

E: Lift it. (O obeys.)

E: Now you can't lift it. O: Yes I can (but he doesn't).

E: Now every time you try to lift your hand it will go down. Now where is it? O: In the air (incorrect).

E: Are you awake or asleep? O: Awake (and he refuses suggestions directed to his left hand. The right hand is still anaesthetic.)

E: You can't keep your right hand down. Are you? O: Yes (incorrect).

The screen was then removed, whereupon O's right hand was no longer suggestible, in spite of E's insistence. O, however, made obvious efforts to resist, keeping an intent gaze on the hand and rubbing it with the other. When he looked away, it yielded to suggestions again.

E: How does your hand feel? O: Kind of numb.

Being placed once more behind the screen, the hand again obeyed. O then returned to the easy chair.

E: Do you feel quite awake? O: Yes, but sleepy.

#### HYPNOTIC STAGE 2:

E: Now tell me what you were doing at the table. O: Writing.

E: What? O: What you told me to do.

E: What was that? O: I was shown a number. If it was in ink of one color, I was to make that number of circles across the paper; if two colors, circles for the digits in black ink, crosses for those in red across the paper.

E: What was the number? O: 724.

E: Of what color the ink? O: 7 and 4 black, 2 red.

E: What did you write? O: Seven circles and two crosses below that and then four circles.

E: What else? O: Wrote crosses and circles several times.

(All the foregoing answers are correct.)

E: Anything else? O: Couldn't write all I wanted to.

E: Why? O: Hand wouldn't write everything I wanted.

E: What did you want to write? O: All the instructions you gave me.

E: Why couldn't you? O: Because I couldn't make my hand do what I wanted it to do all the time.

E: What prevented? O: Because I was trying to prevent it.

E: Trying to prevent what? O: I thought it must be doing something though I didn't know it at the time; and so I tried to keep it from doing it.

E: Did anything else happen to that hand? O: Yes, you touched it several times, sometimes with your hand, sometimes with something sharp, but I didn't know, at the time it occurred, that you touched me.

E: How, then, can you know it now? O: I remember it now.

E: What are you thinking of now? O: Nothing.

E: Are you asleep? O: No.

E: Do you feel in good control of yourself? O: Yes, if you want me to have control.

E: What if I don't? O: Then I don't want to.

By direction of E, who gave it unobtrusively, R here undertook to make suggestions to O, telling him to raise his hands. O did not obey.

E: Did you hear that? O: I heard something, but I didn't pay any attention to it, because I didn't think it concerned me.

O now followed E's suggestion, which was a repetition of R's.

E: Does this feel like ordinary waking? O: No.

E: How different? O: More comfortable, care-free, no extreme of any kind.

E: What does matter to you now? O: Nothing but what you want me to think of.

E: Was your right hand under your control at the table? O: No.

E: Why not? O: Because you didn't want it to be.

E: How did you know that? O: By the way you spoke.

E: Were you aware of that at the time? O: No.

E: Did you make a serious effort to recall at the table? O: Yes, but I didn't feel like thinking about things. I tried to, but really didn't want to.

E: Was it a really serious attempt? O: Yes, because of the difficulties I had to overcome.

E: What were the difficulties? O: Can't explain them.

E: Were you awake at the table? O: Not wholly.

E: Was that experience like anything you know in real life? O: Very much like waking in the morning. Seems as though part of my body belongs to someone else, though I could control it if I wanted to.

POST-HYPNOTIC STAGE:

E: Do you recall anything that has been taking place? O: Not a thing. (E insists, but O also persists.)

E: Does the table recall to you anything that has happened this afternoon? O: (Hesitates) I think I have been over there before, during this afternoon, but I didn't think of it till you spoke of it.

E: What is the most recent thing you can recall? O: I can't say I recall the table; not sure I was over there—might have been. The last thing I can remember is "relax completely" (a direction given by E while inducing Hyp. 1).

*Probative character of this experiment:* O selects and employs pertinent facts according to a plan, and writes about it; he also notes peculiar qualities of a touch stimulus; while in some sense unaware of it all and engaged in conversation and other mental employment ordinarily requiring much attention. Later O recalls it all without, meanwhile, having received information from any source outside himself.

*Associative relations among the several stages and subgroups:* Hyp. 1 has a very slight connection with the voice-group of Int. and full connection with the hand-group; but, so far as the evi-



dence goes, without connection, unless indirect, with any later group. In Int. the hand-group is dissociated from the voice-group except that, under special conditions of mental set in the voice-group, a few stimuli belonging to the hand-group cause images within the voice-group. The two groups are united, at least to an important extent, in Hyp. 2. (The record shows no complete testing in this stage for all the items of each group of Int.) Post-hyp. shows a very slight connection with Int. and no other.

*Comments:* (1) The scope of the dissociated hand-group is to be noted. Included with it is a considerably greater touch-area than in the case of Observer H. Certain auditory items are split off with it. (2) The usual methods of directing attention, ordinarily effective, do not suffice to reunite the two groups. (3) The automatic writing was to a large extent spontaneous, *i.e.*, it functioned beyond the scope explicitly assigned by suggestion. (4) There is motor as well as sensory dissociation between the subgroups of Int. The voice-group is "deceived" as to its success, both in moving and in preventing the movement of the special motor organ of the hand-group. (5) The voice-group can "feel" stimuli in the right hand when they do not exist, as well as fail to feel them when they do. (6) Vision, as a function of the voice-group, brings back the missing right-hand-touch function. (7) The attempt of the voice-group to control the right-hand function brings into evidence new sensory items from that hand, viz., numbness, which persists even when vision restores it somewhat to the control of the voice-group. (8) Int. is felt as a sleepy stage. (9) O recalls that stage as one of cross purposes, inner opposition, and defeat, but as lacking at the time any insight into its own meaning. (10) The abnormal character of the subgroups is shown by the susceptibility of both to suggestion. (11) The indifference of O to his incapacity in Int. is like that of the hysteric for his lost functions.

## EXPERIMENT 12.

May 18, 1921, 4:15 P.M.

O: G. E. H.

E: C. T. B.

R: J. L. B.

## HYPNOTIC STAGE 1:

Directions to O: On awaking you will go to the automatic-writing table. I will show you a piece of paper containing two numbers. You will perform the division of these numbers, the larger by the smaller, if they are given in ink of one color; the subtraction of the smaller from the larger, if in ink of different colors. Write the answer automatically. (The directions were repeated; and then) Do you understand? (Affirmative reply.)

## INTERIM STAGE:

O goes to the table.

E: Do you remember anything that has just taken place? O: No, I don't remember anything that has happened.

E: Are you quite awake? O: Yes.

During the foregoing conversation O is writing the following: *answer a problem of division or | subtraction.*

E: What is that (showing a card containing the numbers 27 and 9, both in black ink)? O: 27 and 9.

E: What does it remind you of? O: The last experiment (with another observer on the same afternoon).

E: What do you guess about it? O: I guess I am to perform some sort of a problem; but I don't see how; for in the last experiment there was only one number and there are two in this.

During the foregoing conversation O's right hand has produced the following arrangements of digits in a space  $2\frac{3}{8} \times 1\frac{3}{4}$  inches.

3	3	3	3
3	3	3	3
3		3	3
3			3
3			

The lowest 3 in the left column was written last; it was fused with the first word of the next sentence written. This makes it probable, in default of any notation by E in the record, that these digits were produced in rows rather than columns. The regularity of the resulting figure was very nearly as precise as in this printed reproduction. The writing continued as follows:

*I am dividing 27 by 9 be | cause they are the same | color but I don't know it.*

Here are given correctly both the solution of the problem and its statement.

A test now made for anaesthesia of the writing hand was positive; but with this variant: Whenever any other part of the body was touched in this test O said yes; whenever the writing hand was touched he said nothing and gave no sign of perceiving it, except that the stimulated hand would make each time a vertical mark, arranging these in a row. This was done spontaneously, so far as E is aware.

A test was now made to see whether stimuli on the anaesthetic hand could be shown to produce in O conscious effects of whose origin he was unaware. The hand was touched with the blunt end of a pencil the intended number of times, at the rate of about three in two seconds, according to the following series: 7, 3, 4, 1, 9, 2, 8, 6, 5.

E: I want you to think of a one-place number. Think of counting the

units in it thus: one, two, three, four, for 4, etc. O: I thought of 7 (correct), but probably because it was the first number in the last experiment (which was a fact—724).

E: Think once more please. O: I thought of 3 (correct).

E: Why? O: Because, perhaps, 4 from 7 leaves 3.

E: Think again. O: All that seems to run in my head is that combination.

E: What? O: That 724 combination.

E: Think of a single one. O: 4 (correct).

E: Think of another. O: I don't think of any special number.

E: Think again. O: No one number.

E: Single digit. O: I might say 4 (incorrect, a repetition of the preceding).

E: Once more. O: 9 (correct); 7 and 2 make 9.

E: Once more. O: 2 (correct).

E: Why? O: Because it's another one of those numbers (724).

E: Try again. O: I don't think of anything.

E: Try again to imagine. O: 7 (incorrect).

E: Again. O: 6 (correct)—one I hadn't mentioned, so I thought I might as well try it.

E: Again. O: 5 (correct).

E: Why? O: 2 from 7 leaves 5 (harking back once more to 724).

E: What have you been doing? O: Thinking up numbers.

E: Is that all? Can you guess that you were doing anything you haven't mentioned? O: I might be writing, because that is what I generally do when I sit here with my hand behind the screen.

E: Have you been aware of it this afternoon? O: No.

E: Are you awake now? O: Yes.

E: As much awake as when acting as clerk (recorder)? O: Not quite so much awake because I've just been asleep (referring to Hyp. 1).

E: What are you thinking of? O: Nothing at all.

At this point, for the four questions following, the record becomes obviously an incomplete picture of the experiment, but cannot well be omitted. (See record of Hyp. 2 for what should presumably have been entered here.)

E: Can you put both hands down? O: I think so.

E: Why do you say "I think so"? O: Because I wasn't thinking of whether I was putting them down or not.

E: I am going to shake hands with you. Are you now shaking hands with me? O: I don't think I am.

E: Do you feel my hand? O: No.

Meanwhile there has been more writing produced spontaneously. It has been scattered over the period elapsing since the test for anaesthesia was made. Here is the record:

*Seventhree . . . | . . . | one | nine | what a | what a | Give to . . . | two to . . . ix | no I don't feel as awake | but I can't tell of course | I don't know | awake I don't | why I don't fe . . . |*

Here are fragmentary references to the original problem, to an occasional question, and to some felt inhibition.

E: Write your name now. Have you done so? O: I don't think so (but he has).

E: Now you will tell me whether you have written it or not. Have you done so? O: No (hand writes "yes").

E: Now you will write whether your last answer (*i.e.*, oral answer) was correct. Have you done so? O: No. (Hand has, however, written "No.")

A test for anaesthesia of the writing hand was made about this time, O's eyes being closed.

E: Do you feel that you have good control over both hands? O: No.

E: Where is your control least? O: In the right arm.

E: Can you do what you want to with it? O: No.

E: Why not? O: Because I don't feel it.

E: Write the name of this state and regain control of your right arm. (O writes "Maine.")

Whether control was thereby regained does not appear in the record; for in answering the questions just preceding, O began to appear so obviously passive that a new hypnosis was suspected. Being told to open his eyes he, at first, remained passive; but, after repeated suggestions, he conformed.

E: Are you now awake? O: Yes.

E: What is the last thing you remember? O: You were touching my hand several times. (This perhaps locates the onset of hypnosis in the foregoing record.)

E: Do you recall anything about the right hand? O: No.

This amnesia indicates that O did fall spontaneously into hypnosis while being tested for anaesthesia. The different tenor of his replies here is thus accounted for. The following questions were asked with the intent to test O's present degree of suggestibility.

E: You won't understand what my next question means. What did you have for dinner to-day? O: We had—

E: Are you sure you can remember? O: I can tell you if I can recall.

E: What? O: Eggs (correct, according to R).

E: Now rub your hands over each other. Do you feel awake? O: Yes.

E: As much as when acting as R? O: Just the same as when you asked the question before.

(O had evidently recovered from his brief spontaneous hypnosis.)

#### HYPNOTIC STAGE 2:

E: Tell me, please, what were you doing at the table? O: Writing different things for you.

E: What did you write? O: 3 which was the answer to the problem.

E: How could it be? O: How could it be anything else?

E: How did you get it? O: Divided 27 by 9.

E: Why divide? O: Because the ink was of one color.

E: What else happened? O: I wrote what I was doing and answers to questions you asked.

E: Did you know you were doing it? O: No.

E: What else happened? O: That was all that I wrote—just answering questions.

E: Any other experiences received by right hand? O: Yes, you touched it, raised it, made it go from side to side.

(A part of the record above indicates that this may well have been true, but the record does not note it specifically.)

E: What kind of touches? O: Sometimes with something very sharp, sometimes with finger (correct).

E: Were you aware of this at the time? O: No.



E: What happened when your eyes were shut at the table? O: I was doing various things for you.

E: Were you in the same sort of state as just before and after that? O: I think so. You said to wake up and I opened my eyes.

E: Were you awake while at the writing table? O: No.

E: Were you asleep? O: No.

E: How describe the state? O: I didn't know very much.

E: What do you mean? O: I didn't think of anything and couldn't think of many things.

E: Are you awake or asleep now? O: I'm not asleep.

E: Do you feel as you do ordinarily during the day? O: No.

E: What is the difference? O: More comfortable and know more.

E: Know more? O: Yes.

E: What do you mean? O: I can remember about things I don't usually.

E: Can you illustrate? O: I can remember picking out portraits one afternoon, then writing about them, describing them. (This is a correct reference to a former experiment and events that occurred during hypnosis. The record shows no attempt to test O's ability to recall them outside hypnosis.)

E: What are you thinking about? O: I was thinking about what I was telling you about.

E: What was that? O: Picking out portraits. I remember last year not being able to speak, and writing you about it (all of which really occurred as O states, in hypnosis).

E: Don't you remember it when awake? O: I only remember *about* it; I don't remember *it*. (O had had plenty of opportunity to learn about this outside hypnosis.)

Here R attempted to make motor suggestions. No response.

E: Why don't you do that? O: Because I don't want to.

The same suggestions now made by E are accepted.

E: Why do you do it now? O: I want to.

E now gives O the suggestion that he cannot lower his raised arm, though trying hard to do so. This is accepted.

E: Tell me about your effort in trying to put down your arm. O: It won't come. I've forgotten how to do it.

E: To do what? O: To put it down.

E: Now you can tell how to do it. (O then lowered his hand.)

E: Can you recall answers to any other questions at the table? O: Yes, I put down a mark every time you touched me, to show you I knew you did it.

E: Do you recall anything else? O: You told me to write yes or no to certain questions. You told me to write my name and whether my answer was right.

E: Was your answer right? O: What I wrote was right.

E: Was what you said right? O: No.

E: Was it said truthfully? O: Yes, but I am so stupid I never know what is right and what isn't.

E: Do you know what I have been saying from time to time to Joe (R)? O: No, I haven't noticed.

E: Why? O: Because you haven't been talking to me.

E: Does your mind feel clear now? O: Yes.

E: Clearer than when at the table? O: Yes.

## POST-HYPNOTIC STAGE:

O remarks on awaking, that he seems to have been more fast asleep than usual.

E: What do you recall? O: Nothing.

E: What is the last thing you recall? O: Sitting in the easy chair.

E: Does the table recall to you anything? O: The last experiment (*i.e.*, one with another observer on the same afternoon).

E: Does it recall to you any of your own activities? O: Yes, it does.

E: Those of to-day? O: No.

E: Do you recall anything else from to-day's events (*i.e.*, belonging to this experiment)? O: No.

E: What is your general attitude toward what has gone on to-day? O: I don't care. I don't want to have to remember it, but would like to have it told to me.

E: I will help you to recall. O: I don't think I want to.

E: Why? O: It's like recalling a nightmare—too complicated for trying to remember.

E: Does this mean that you have a disinclination for this experiment? O: No. When I wake up I feel relieved as though purged of terrible complications.

E: Have you ever, when not here, revived in memory any of these experiments? O: No. I never recall the actual experiences. I think of the results.

*Probative character of this experiment:* O gathers and interprets data and uses them to solve a problem—all according to a plan. He gathers other information, writes comprehendingly about the situation, and executes suggestions. Of all the foregoing functions he is in some sense ignorant. Yet afterward he is able to recall them all, without having received information, meanwhile, from any source outside himself.

*Associative relations among the several stages and subgroups:* Hyp. 1 seems to have no direct associative relations with any later stage. Int. shows the following: The hand-group is dissociated from the voice-group completely except that stimuli belonging to the former produce uncomprehended effects in the voice-group. The voice-group, on the contrary, seems to be pretty closely associated with the hand-group. Both are reunified in Hyp. 2, and persist by the scantiest associations into Post-hyp.

*Comments:* (1) O rationalizes falsely about the origin of certain experiences. (2) Stimuli belonging to the hand-group produce, in the voice-group, under conditions of appropriate mental set, effects whose real meaning in terms of external cause is not felt; and this is shown in eight trials out of ten. (3)

There is unusual spontaneity in the writing, expressing in a variety of ways the impulse to communicate. (4) The associative appropriation of voice-group by hand-group, without the reverse, is clearly shown in the writing. (5) Int. is clearly not one of ordinary hypnosis, though obviously abnormal; it is not sufficiently suggestible. Yet, in this experiment, it is close enough to merge spontaneously into hypnosis. (6) The associative relation of Hyp. 2 with remote hypnotic experiences is a confirmation of a relation already known. (7) Certain felt differences between Int. and hypnosis are described by O while in hypnosis. The former is felt as a state of neither sleeping nor waking, one of not knowing much, nor thinking of anything, nor being able to think of many things—a state of nightmare-like discomfort because of its felt complications: a state of stupidity. Hypnosis is not felt as sleep nor yet as waking—a state of greater comfort and knowledge; of mental clearness; of unconcern about things not felt as intended for the hypnotized; of indifference to everything not felt as planned for him by E; yet the hypnosis that developed spontaneously in the midst of Int. did not seem in retrospect, to O, different from Int. About this, however, he speaks with less confidence. (8) O regards himself as truthful but stupid in Int. (9) The immediate cause of suggested paralysis is felt by O to be forgetting how to make the forbidden movement—an inhibition of associations. This mode of executing the suggestion seems to have been spontaneously selected. (10) O's memory in hypnosis seems sometimes a little sluggish. He has to be plied with questions in order to reveal his actual knowledge. Sometimes he seems monosyllabic; sometimes more talkative, opening unsuspected vistas of great interest. Had they been suspected, the neutral method of these experiments would have forbidden a direct inquiry of O. (11) The idea of what he may be doing in Int. is not sufficient to make O perceive that he actually is doing it. He cannot perceive certain acts merely by having his attention called to them.

## EXPERIMENT 13.

June 10, 1921, 9:30 A.M.

O: G. E. H.

E: C. T. B.

R: J. L. B.

(Extensive records were made by E also, during the experiment. When not specially indicated O's replies were given orally.)

## HYPNOTIC STAGE 1:

Directions to O: When you awaken you will take your seat at the automatic-writing table. After you sit down there, no words uttered by me will have any meaning for you, until I request that you let me feel of your left hand, after which my words will once more have meaning. Your right hand, meanwhile, will be able to understand my words and to act automatically in accordance with them. (Directions carefully repeated; and then) Do you understand? (Affirmative reply.)

## INTERIM STAGE:

O awakens and takes his place at the table.

E: Do you hear me? O: (Silent, writes) *No, but I can hear. I won't hear.*

E: Who are you? O: (Silent, writes) *G..... H.....* (the two names in full).

E: What are you doing? O: (Silent, writes) *Answering you.*

E: Do you know that you are writing? O: (Silent, writes) *No, but I am.*

E: What is the rest of you doing? O: (Silent, writes) *Nothing.*

E: If you understand me write 6, if not write cow. O: (Silent, writes) *6 I can understand | but I think I can't . . . | . . . think I can't*

At this point R begins to take part in the questioning, being largely prompted by E. The writing that accompanied it is inserted below, as there is no record, only internal evidence, to show the points at which it occurred.

R: Are you awake? O: Yes.

R: How long? O: Five minutes.

R: Do you know what you had for breakfast? O: Yes.

R: What? O: (Laughing) Scrambled eggs.

E: Do you hear me speak? O: (Silent.)

E: Do you hear me write? O: (Silent.)

R: Who else is here? (The answer if given is missing from the record, but O's next reply indicates that he answered this question correctly.)

R: Has he said anything to you? O: Asked if I were awake. (This probably refers to some question put to O on coming out of Hyp. 1—a not uncommon question.)

R: What did you say? O: That I was.

R: Did he say anything else? O: No.

E: Won't you look at me? O: (Takes no notice.)

R: Can you see Dr. B.....? O: Yes.

R: Have you looked at him? O: Yes.

E: Why don't you reply to my questions? O: (Silent.)

R: Why don't you reply to Dr. B.....'s questions? O: He hasn't asked me any.

R: What is he doing? O: Writing.

R: What? O: Don't know.

R: Have you any idea what it is? O: No.

R: Would you like to know? O: (Slightly laughing) Yes.

R: Why? O: No reason in particular.



Here E walked in front of O, touched him, and leaned forward to look pretty closely into his eyes, but was ignored.

R: What are you thinking about? O: Nothing.

E: Can you feel my touch (slapping O's left hand)? O: (Silent.)

R: Can you feel Dr. B.....'s touch? O: Yes.

(At this point something is apparently missing from the record.)

R: Why hesitate in saying no? O: No what?

R: To last question? O: Don't know what it was.

E: Why don't you reply to my questions? O: (Silent.)

E: Do you feel my touch (slapping O's knee)? O: (Silent.)

Here is the writing produced during the foregoing conversation.

. . . | *No I think I can't because I | can't understand . . . because I can't | understand I won't hear | I can't understand so I can't hear | but I really can can really can and am | Yes but I can't answer*

The writing now ceases during the following test.

R: Tell me if you feel a touch. O: What touch?

R: Any touch.

E then touches various parts of O's body—legs, feet, left hand, right hand and right arm. O responds to all except those on the right hand and right arm, which is anaesthetic to the shoulder. (The record omits to state whether O's eyes were open or shut.) The writing begins once more with the following questions:

E: Why don't you look at me? O: (Silent, writes) *Can't understand so can't hear | but I can understand*

R: Why don't you look at Dr. B.....? O: Why should I?

R: Dr. B..... is going to pass in front of you and I want you to pay attention to him when he does.

E walks in front of O, kneels to look into his eyes, touches his leg. O appears not to look at E but beyond him.

R: Are you paying attention to him? O: Yes.

R: Are you looking at him? O: Yes (incorrect to all appearances).

Then E asks the question as arranged in Hyp. 1.

E: Let me feel of your left hand. O: (Responds immediately, with a pleasant change of expression and a bit of surprise in his manner.)

E: Do you feel my touch? O: (Eyes open) Yes.

A test for anaesthesia of the right hand here gives positive results only as far as the wrist.

E: Are you awake? O: Yes.

E: What have you been doing since sitting here? O: Talking with Joe.

E: What have I been doing? O: (Voice) I was looking at Joe all the time. (Hand writes, now and during the question following) *Writing and asking questions which I couldn't | understand so I couldn't answer | I can understand you now but I | can now*

From this point forward, in this experiment, all the writing was produced spontaneously, i.e., without intended suggestion by E so far as the record shows.

E: Yes, but what was I doing? O: U.....h (as though about to speak, but in much hesitation.)

E: What have I been doing? O: (Voice) I hope this good weather will keep up for a while, that we have been having so long, don't you? (Hand) *I don't remember I | won't tell you those things because I | can't but of course I know*

E: (Evidently caught unawares) Yes—I'd like some rain myself. How did you happen to make that comment just then about the weather? O: Well, we've been having such good weather lately I hope it will keep up.

E: What have you been doing while sitting here? O: (Voice) Talking with Joe for a while. (Hand) *I have been . . . talking to Joe that's right | them | but . . . cause I wouldn't hear | you so I wouldn't | answer*

E: What else? O: (Silent.)

E: What else? O: That's all I've been doing—except thinking.

E: Thinking? What about? O: Thinking about the weather. Don't you think it would be nice to have it clear a while longer?

E: What has your left hand been doing? O: I don't remember.

E: Your right hand? O: I don't know.

E: Your left leg? O: I don't think it has been doing anything (laughs).

E: Do you suspect yourself of having done anything? O: Such as what?

E: Anything. O: I know I've been talking.

E: Do you suspect yourself of having done anything? O: No.

E: What are you doing while hesitating? O: Thinking.

E: Does this screen make you think of anything? O: I may have been writing.

E: Were you conscious of it? O: No.

E: Now I want you to think of some numbers. Think of counting it—1, 2, 3 for 3, etc.

E begins to impress various numbers on the anaesthetic hand by touching it with his finger the requisite number of times, at the rate of about three touches in two seconds, using the following series, determined by drawing numbers that had been shaken up together—9, 1, 7, 6, 8, 2, 5, 4, 3.

E: What number do you think of? O: I think of 9 (correct).

E: How does it appear in your mind? O: Well, I just thought of it.

E: Does it appear in the form of images? O: Yes.

E: Visually? O: Yes.

E: How? O: (Voice) Brightest in a long string of numbers. (Hand produces what may perhaps be taken as two 9's one under the other; and under both a legible "you"; then) *you have been touching my hand and it | makes | me think of those numbers but I don't know you are touching me . . . | . . .*

E: Do you see any of the other numbers? O: Yes, this one (9) being in red.

E: Once more, think of a number (two touches were given, one being intended, the other accidental and not in the customary manner).

O: (Voice) I thought of 11 (incorrect). (Hand) *Two touches. This 11.*

E: Think again, please. O: 7 (correct).

E: Again. O: 6 (correct).

E: Again. O: 8 (correct).

E: Again. O: 2 (correct).

E: Again. O: 5 (correct).

E: Why any of these? O: (Voice) I just see them. (Hand) *No I see them because I feel them though I don't know | I feel them I'm telling you as well as | I know but I don't know en |* (margin of sheet reached here) *enough to tell you right . . .*

E: As in the first case? O: Yes.

E: Any color? O: Red.

E: Think again. O: 4 (correct).

E: Think again. O: 3 (correct).  
 E: What have you just been doing? O: Thinking of numbers.  
 E: Anything else? O: No.  
 E: Are you awake or asleep now? O: Awake.  
 Tests for suggestibility here given were negative.  
 E: Do you feel as usual? O: Just about.  
 E: What is the difference? O: (Voice) I feel sleepy. (Hand) *It isn't sleepy its because I can't remember or think | of anything new it makes me so stupid | I think its being sleepy.*  
 E: Do you think you would be able to take an examination as you are now? O: I wouldn't want to.  
 E: Why? O: Too sleepy.  
 E: Can you recall everything that has happened while you have been sitting here? O: Yes, everything.  
 E: Does it stand out pretty clearly in memory? O: Yes.  
 E: What things stand out? O: Talking.  
 E: Is that all? (E repeats the question and O hesitates.) O: (Voice) Yes, you've been touching me and I've been thinking of numbers. (Hand) *Of course I've been doing more but don't | like you to ask me because I don't | know and I don't like to seem so | stupid, but I think I know every- | thing but I don't. I can't rememb (runs off paper here) | what I do know even very well | I can't even remember don't want to cant. | . . . | . . .*

The foregoing writing was in process of production from the time the pertinent question was asked to the end of the next few questions.

E: What day of the week is this? O: Friday (correct).  
 E: What time of day? O: I don't know.  
 E: Morning or afternoon? O: Morning (correct).  
 E: Can you give the time approximately? O: No, well, half past nine (in reality an hour later. O gives the hour at which the experiment started).

At this point, tests for anaesthesia of the writing hand were made, with positive results as far as wrist. The writing thereupon ceased. To O, whose eyes were still closed, E suggested various movements for right and left hands respectively. The left hand declined, the right (concealed) hand accepted, these suggestions, though O thought both hands were equally under his control. In a single exception the right hand did not obey when O, however, thought it had.

E: Why didn't you answer my various questions while sitting here? O: I did.

E: Was there no group of questions which you didn't answer? O: No. (with a look of slight surprise at these two questions).

E: How do you feel? O: A little bit sleepy.

#### HYPNOTIC STAGE 2:

E: What were you doing at the writing table? O: I was writing.  
 E: What were you writing? O: I was writing answers to things you asked me.  
 E: For example? O: You asked me if I could hear you.  
 E: Could you? O: Yes.  
 E: What did you say when I asked you that? O: I didn't say; I wrote.  
 E: Why didn't you say? O: Because you told me to write.  
 E: Could you really hear me? O: Yes, I heard you.

E: Did you tell B..... (R) that you heard me? O: I was writing all the time.

E: Did you tell him that you heard me? O: Perhaps I said I didn't (correct), but that didn't count. I was writing you the answer.

E: Why didn't it count? O: Because *I* was answering you by writing you the answer. (Much emphasis on the *I*.)

E: Who was talking if *you* were writing? O: (Silent).

E: Why don't you answer the question? O: *I* was answering you by writing (again the emphasis).

E: Then who was answering B..... by talking? O: Well, it was my voice, but I was answering you by writing.

E: Who controlled your voice? O: I don't know.

E: What else was going on at the table? O: You were touching me.

E: What sort of touches? O: With your finger, your foot, and something sharp (the latter reserved here, as always, for the anaesthetic area).

E: Where did you feel the sharp touches? O: On my right hand.

E: Why didn't you tell me so at the time? O: I thought I couldn't feel it, but I could.

E: What other things did I do? O: You were writing and kept touching my hand.

E: What else? O: You walked around.

E: Did you notice me doing it? O: Yes.

E: Why didn't you respond to me? O: I did.

E: Why didn't you look at me? O: I *did* see you.

E: Did you look at me? O: No, I couldn't.

E: Why not? O: I don't know.

E: Think hard. O: It wouldn't let me.

E: (Not quite catching answer) "It" wouldn't? O: It wouldn't let me—something wouldn't—I wouldn't.

E: Why do you change from "it" to "something" and then to "I"? O: I couldn't look at you because—

E: Because what? (O shows signs of uneasiness, tension in the face muscles, while the same question is given three times.) Because I just couldn't look at you, that's all.

E: Do you recall any other things you said at the table? O: That I *said*?

E: Yes. O: I said different numbers (correct).

E: Why did you say those numbers? O: Because I made them be said.

E: What do you mean? O: You were touching my hand and I *made* those numbers; I made them be said.

E: How did you happen to select those numbers? O: I didn't *select* them, you touched them on my hand.

E: What if I did touch your hand? O: I wanted to let you know that I knew you were touching me.

E: Did you know at the time you wanted to let me know? O: (With emphasis) I knew.

E: Was there anything that you didn't know? O: Yes.

E: What? (O again shows signs of uneasiness and effort. E repeats the question.) O: I don't know what.

E: You can give no further information about that? O: (After effort) I couldn't say the things I wanted to, nor see what I wanted to, nor do what I wanted to, nor hear what I wanted to. Of course, I really could



do all those things, but I didn't think so—and I knew it, but *they* wouldn't let me.

E: Who were "they"? O: (Half mumbling) I don't know who *they* were. (Then, clearly) It wasn't *they*; it was *me*, but it *wasn't me*—

E: If it wasn't "me" who was it? (Correcting himself) No, you say it was "me" and wasn't "me." How can that be? O: Well, it wasn't *me*, but had something to do with me—I don't know what.

E: Who is really talking to me now? O: I am.

E: The same "I" that knew all about these things at the table? O: Yes, of course.

E: While you were at the table, was your "I" answering B.....? O: No, *I* wasn't.

E: Was it answering me? O: Yes.

E: With your voice? O: No, by writing.

E: What was using the voice? (O shows some effort or uneasiness. E repeats the question.) O: I don't know.

E: Were the answers given at the table honest answers? O: (Promptly) Yes.

E: The answers given by your voice? O: I guess they were *honest*.

E: Why do you speak so guardedly? O: They weren't true and may *not* have been honest; but I suppose they were.

E: Were you in doubt of them at the time? O: *I* (Emphasized) knew they weren't so.

E: Why didn't you give me the true answers? O: Because I couldn't say them. I wrote you the true answers mostly.

E: Does that experience seem to you just like telling a lie ordinarily? O: (Earnestly) Oh no. *I* was telling the truth all the time.

E: Even when you answered with your voice? O: *It* didn't know any better.

E: Why do you say "it"? O: Because I couldn't use it (meaning, apparently, the voice), I was shut up and could only get out through my hand.

E: Are you answering my questions on the basis of direct memory? O: Yes.

E: Are you consciously affected by any theories of Psychology? O: (In some surprise) Am I what?

E: (Repeats.) O: I don't *believe* so.

E: Are you trying to report what you seem to have observed directly in yourself? O: Yes.

E: Has it been hard to give the answers? O: (Quickly) Yes.

E: Why? O: (Pausing) Because I can't explain them myself.

E: What do you mean by "explain"? O: When you ask me *why* of all these different things, I don't know why.

E: Have you any doubt about the correctness of your report about the facts? O: (Quickly) No. I don't know that I have said *clearly* what I mean.

E: Can you compare your experience at the writing table with any experience you have had in ordinary life? O: (Quickly) No.

E: (After a pause) What are you thinking about now? O: Nothing.

E: Would you like to wake up now? O: (Promptly) I don't care.

E: What have you just recently been hearing? O: Your writing—mandolin playing (both correct).

E: When you were writing automatically, did you make anything beside letters and words?? O: I tried to make some letters sometimes that I couldn't.

E: Do you know what you made in place of those letters? O: No (doubtfully). Just a scrawl, I guess.

E: What started you to write from time to time, while sitting at the table?

O: When you asked me questions that weren't being answered right.

E: What was that noise, George (a horse galloping past)? O: A thumping.

E: What may have produced it? O: I don't know.

E: Are you asleep or awake or neither? O: Nearly asleep.

E: Do you seem to yourself to be dreamy? O: No.

E: Will the "I" present when you wake up be the same as that engaged in writing? O: I hope so.

E: Shall you be able to tell? O: I don't know.

E: Will the "I" present when you wake up be the same as that controlling your voice at the table? O: I hope not.

E: Were you uncomfortable at the table? O: I don't know what you mean.

E: Did you *feel* uncomfortable there? O: (Silent, shows signs of uneasiness.)

E: (Repeats question.) O: I don't remember.

E: Do you remember any uncomfortable experiences since you went to sleep? O: Yes.

E: What? O: I couldn't see what I wanted to; nor say what I wanted to; nor sometimes write what I wanted to—then I could only make a scrawl.

Thinking O had said something about hearing, missed in the process of note-taking, E asked the next question.

E: What did you say about hearing? (In the answer to this question there appears a possibly important difference between the records made by R and E respectively—important because one of these in form contradicts a statement by O made earlier in this stage.) O: (According to R) I could hear all I wanted to. I could hear better than the others. (According to E) I could always hear everything. (Then, after a pause) I could hear better than the others. (This second sentence, alike in both records, probably means, "better than I could use the other senses.")

E: What prevented your writing what you wanted to? O: The same "they" that wouldn't let me see what I wanted to wouldn't let me write what I wanted to.

E: About what time is it, do you think? O: I don't know.

E: Guess. O: About noon (correct).

E: Why do you say that? O: You asked me to guess.

E: By what do you judge? (After a pause) Because I hear different sounds—whistles and things that blow around noon. (Such a whistle had sounded in the distance.)

E: Do you feel now just as you do ordinarily? O: No.

E: What is the difference? O: I'm not awake now.

E: Do you feel all right? O: Yes.

E: Would you like to remember all that you have been experiencing? O: Don't know.

#### POST-HYPNOTIC STAGE 1:

E: Do you know what time it is? O: About 10 o'clock. (O had been hypnotized about 9:30. It was now about 12:00.)

E: Why do you say that? O: (Smiling) I don't know; it seems about that time.

E: How do you feel? O: All right.

E: Awake? O: Waking up (laughs, then after a pause, spontaneously) I feel as though I had been very deeply asleep—miles away.

E: Do you remember anything that has occurred this morning since you have been asleep? O: No.

E: Try. O: (After a pause) I can't (with a smile).

E: Does that table (pointing to the writing table) remind you of anything? O: Yes, experiments carried on there.

E: Anything occurring this morning, I mean? O: No.

### HYPNOTIC STAGE 3:

E: What were you doing at the writing table? O: I was writing answers to your questions.

E: What were some of those answers? O: I was writing that I could hear you but couldn't answer you.

E: What else? O: I could see you but couldn't look at you. (If this refers to a written answer, as the form of E's question implies, it is incorrect; if merely to events of the preceding stage, as O's answer to the next question implies, it seems to be correct, according to the circumstantial evidence.)

E: Anything else? O: You asked me why I didn't answer you.

O was then awakened, after being given the suggestion that he would recall everything when awake.

### POST-HYPNOTIC STAGE 2:

E: Are you awake? O: Yes.

E: Do you remember anything? O: Yes, but it all seems like a dream, not like anything real.

E: What do you recall? O: I was thinking about sitting at the table writing. (Then, in astonishment) It doesn't seem real or possible!

E: What do you recall? O: (Pausing briefly) Why, I was recalling the situation there. What a funny one it was! If (smiling) I am remembering it rightly. It seems weird.

E: What was it? O: I seemed to be divided in two. I remember thinking of one thing and at the same time thinking of another—trying (R's record gives "wanting") to do something and not letting myself do it. Terrible mix-up!

E: Which of these are you now? O: Both, I guess (laughing), if I remember. I don't remember much about it. Seems more like a nightmare than any real thing.

E: Does it disturb you to recall it? O: It's not pleasant to recall by any means. If not interested I wouldn't. (R notes here in a parenthesis that it "had been suggested that he would be interested." There is no other record of such a suggestion in that form.)

E: Interested in what sense? O: To find out about it; it's such an interesting condition.

E: Do you remember anything else? O: Vague generalities—nothing much in detail—like a dream. Chief thing that stands out is doing two things at once. Horrible to think about!

E: Why horrible? O: Because you don't feel that you were yourself. Terribly confused state of affairs. (This in a pleasant tone of voice.)

E: When you have previously recalled things by my help, have they faded away? O: Yes. I remember them only as they were reported to you (*i.e.*, as given in a post-hypnotic state).

E: Do you later remember that they felt horrible; or do they continue to feel horrible? O: Usually one thinks of oneself as having judgment and fitting things together; and I don't seem to have been present in that sense though present somehow in both the experiences of that time; but it seems wholly alien to me.

E: (Repeats the question.) O: They continue to feel horrible.

E: Are you unhappy to recall it? O: Yes, it isn't pleasant though it is interesting.

*Probative character of this experiment:* O was able to gather information, and act upon it, in the way of making discriminating replies, at the same time that he was, in some sense, unaware of it all, and otherwise occupied. Afterward, however, he was able to recall it, though meanwhile receiving no information about it from any source outside himself.

*Associative relation among the several stages and subgroups:* Hyp. 1 seems not to be recalled in Int. by either partial group, though experiences in this stage are determined in great part by the former. Hyp. 1 is, however, recalled in Hyp. 2; but there is no reference to it in any later stage. Of the component groups in Int. the hand-group is dissociated from the voice-group, though stimuli belonging to the former produce distorted effects in the latter. At least a part of the voice-group was included in the hand-group. These groups are partly united in Hyp. 2, disappear in Post-hyp. 1, reappear in Hyp. 3, and by suggestion in Post-hyp. 2, but incomplete in details and rather vague, yet in some respects more fully than in Hyp. 2, *e.g.*, in recalling discomfort and its character.

*Comments:* (1) The interference between the partial groups of Int. is to some extent mutual. The voice-group can't see (look), remember, hear, get touch perceptions, adequately. The hand-group feels itself limited, for expression, to the hand, and even there feels hampered. (2) There is an apparent contradiction in O's references, during Hyp. 2, to his auditory function in Int. ("I couldn't . . . hear what I wanted." "I could always hear everything" or "could hear all I wanted to"). This contradictory appearance is removed, if we regard these utterances as



referring to different component groups of Int. Such an assumption is justified by the following facts: O makes such a distinction elsewhere in language which he insists on, in spite of its apparent contradiction. When he said, "I could hear all I wanted to," he added a reference to the superiority of hearing to the other sensory functions. This utterance seems best explicable by reference to the emphasis laid on hearing in the original suggestion (for he has no apparent auditory defect in the normal state); and, by implication, thus, to belong to the hand-group. (3) The suggestion that E's words would have no meaning, though it really left room apparently for response to crude hearing of E, developed in O a systematized auditory anaesthesia for E, accompanied, spontaneously, by a systematized motor defect—the inability to look at E. O's assertion that he *was* looking at E, being to all appearances false, however much it needs explanation, cannot be regarded as having any weight against this conclusion. Though anaesthesia toward E was limited, he was not wholly ignored. His touches on certain parts of O's body were recognized as by him. O asserted in Hyp. 2 that he could "see" E but could not "look" at him. (4) The events of deep hypnosis can, by suggestion, be made to persist more or less definitely after waking; but in the case of this observer they quickly fade and only persist thereafter indirectly, as memories of what he once said that he recalled. (5) Some of O's replies lead one to ask whether he was in distress during this experiment. The external signs of distress were no greater than the foregoing record shows. O's own language must be interpreted in that light. The distress, such as it was, is apparently that of felt confusion of ideas. (6) The writing hand is evidently guided by stimuli received as it moves. (7) Dissociation is indicated in the delusion of motor control over the writing hand. (8) The speech of O in Hyp. 2 and the automatic writing show the felt confusion reigning within, by the difficulties with pronouns. "I" is used indifferently in both speech and writing for the voice-group and the hand-group. "Me" is used likewise in speech. O seems, however, at times to prefer to identify "I" with the hand-group, which, to him, seems less "stupid" for the apparent reason that

it knows more of what happened and can recall more. Observer J. L. B. preferred the voice-group. A tendency to reject something from the scope of the "I" is indicated by placing elsewhere the inhibitory power, whose effects he has felt. He calls this variously "it," "something," "they," and, almost in the same breath, "I," indicating a felt unity even in the dissociation. It seems possible that this line of distinction be drawn between the hand-group and the voice-group. (9) The restoration of meaning to E's spoken words, by means of the procedure indicated to O in Hyp. 1, did not bring to an end Int. The writing continued. (10) The hand-group included, at its time of greatest extent, touch and kinesthetic sensations from the right hand and right arm, auditory percepts of E, and a range of items, identical with or referring to a large part, at least, of the voice-group. (11) External signs of effort, tension, appeared in four recorded instances, of which three, and possibly four, were concerned with attempts to answer questions about the voice-group of Int. (couldn't look; didn't know what it was he didn't know; didn't know who was using his voice; couldn't recall whether or not he felt uncomfortable at the table. These are all concerned with present or past inhibitions). (12) Time orientation is disturbed in the latter part of Int. and in the beginning of Post-hyp. 2; it appears to be normal in Hyp. 2.

## PART III

### CONFIRMATORY EXPERIMENTS

#### SECTION 1. EXPERIMENTS I-V

(This group of five experiments is defective in minor ways, according to our canon, but yet seems to be strictly probative.)

##### EXPERIMENT I.

Jan. 18, 1920, 4 P.M.

O: G. E. H.

E: C. T. B.

(In this experiment the records were made by E, who was the only person present besides O.)

##### HYPNOTIC STAGE 1:

When O had been hypnotized, he was told that, on awaking, he would be given a sheet of paper on which two numbers would appear that were to be added, and that, on being rehypnotized he was to give the answer at once.

With regard to automatic writing, the record shows no indication as to whether any suggestion was given. This omission was discovered when the record was being later examined for interpretation, and this omission noted thereon—a further note being added to the effect that, according to the “clear memory” of E no such suggestion had been given.

##### INTERIM STAGE:

On waking, O changed his seat to one by a table. He was given a sheet of paper and told to write the first stanza of “America.” This he did. On the upper left and lower right corners of this sheet were the numbers 78 and 47 respectively. A screen was then so placed as to conceal his right hand and forearm, a pencil was put into that hand, and a sheet of paper placed conveniently. O was now engaged by E in conversation, during which O was asked after a time whether he was doing anything with his pencil. Nothing but making crosses and meaningless marks, was the reply. Meanwhile the right hand was making the following record in a sprawling, interrupted fashion: 78, 47, 78 Page (all the foregoing written in a kind of conglomerate mass) | *tells wh n* (which number) | *sum of wh | numbers which | are o* (one or on?) | *would be on | the paper and then | tell you what they | were when you asked | the*

At length O was asked to return to the arm chair to be rehypnotized.

##### HYPNOTIC STAGE 2:

O gave the correct answer 125 at once, orally.

E: Where did you get the numbers? O: (After an obvious effort) That's the funny part. I don't know *where* they were. I don't think you told me.

E: How did you get the number (*i.e.*, the sum)? O: First thing that came into my head. I don't think I saw it.

POST-HYPNOTIC STAGE:

O stated in reply to general questions that he remembered nothing of either trance state nor what numbers were used, nor how he got them; but he recalled well the conversation of Int.

Then occurred the following attempt to remove the inhibition:

E: Do you recognize the number 78? O: (After a brief pause) Yes, I think that must be one of them. Sounded familiar (correct).

E: Do you recognize 125 (the sum)? O: (After a brief pause) No, I don't believe that was one.

E: Do you recognize 47? O: I think it was forty-something. It might be 46 (partly incorrect).

E: (Looking steadily at O) Look at me. Now you may think hard and recall everything in the experience. O: (After pause and apparent effort) No, I can't recall.

Placing hand on O's forehead, E, with a confident manner, tells him to think hard and try to recall. Then, after a pause and apparent effort to recall, O writes: "They were on a paper, on the corners" (correct). O substituted writing for speaking at E's request, as a new observer was coming into the room when O was about to make reply.

*Probative character of this experiment:* In Int. two dissociated groups of mental items are indicated; "two," because they are different in content, and lead to different expressions in voice and hand, respectively; "dissociated," because one at least—the voice-group—does not know the meaning of what the other is doing; "mental," both of them, because, according to the standard admitted in the ordinary affairs of life, the only one in doubt, *viz.*, the hand-group, implies recall of experiences of Hyp. 1, *viz.*, the type of task suggested, and of the special numbers, just previously seen, by which the task was to be executed.

There is no objective evidence that the perception of the numbers was co-conscious, nor could O recall the hand-group in any later stage. The Memory Test thus fails.

*Associative relations among the several stages and subgroups:* The voice-group contains items about right-hand movements but not their correct meaning, substituting "dots and dashes" for what was really significant script. Hyp. 1 seems to be quite dissociated from this group but not from the hand-group, which is so peculiarly affected by the memory from Stage 1 to the effect that the answer to the problem is to be given in Hyp. 2, that this hand-group cannot quite succeed, even in automatic writing, to reveal



the answer in advance. The hand possibly starts to write it but stops short. ("sum of wh | numbers which | are o"). In Hyp. 2 there is a curiously complete suppression of Hyp. 1. The task set in the latter is executed, but that it is a task and has been completed is not known. The suppression of Int. seems almost complete; that there were number data seems to be known, but their source is not known. It was impossible to discover in this experiment whether the actual solution of the problem was performed by the hand-group or in a very brief hypothetical transition stage, developing at the beginning of the second hypnosis and disappearing with the attainment of the answer. By O in Hyp. 2 the number, *i.e.*, the sum, was felt as appearing without indication of origin. These two hypnotic stages were thus in some way different in status, not coextensive.

In Post-hyp. there is partial association with the hand-group of Int. I say "partial" because of the evidence above that items were present in the earlier which were absent in the later. There is no manifest lack in the association of the voice-group with the later stage. Conversation was recalled. But the suppression of both hypnotic stages seems to be complete.

It is not to be supposed that the full range of association- and inhibition-relations among the foregoing stages and subgroups is included in the facts just cited. Other tests, omitted in this experiment but fortunately included in others, would be required for complete determination. We cannot tell whether the number perception of Int. belonged to both partial groups or only to the hand-group, though a straw pointing to the latter exists in this fact, that in Post-hyp. the conversation of the voice-group was promptly recalled, whereas the source of the numbers was recalled only after considerable insistence by E. This seems to indicate that the two bits of experience did not have quite the same status in Int.

#### EXPERIMENT II.

April 20, 1920, 3:45 P.M.

O: J. L. B.

E: C. T. B.

R: G. E. H.

(This experiment immediately followed one that was a complete failure because O remembered in the Interim Stage the events of Hypnotic Stage 1.)

## HYPNOTIC STAGE 1:

Directions to O: You will multiply two numbers. The first is 59; the second is the number of white boxes on the shelf opposite you. When rehypnotized, you will give the answer at once, raising your hand the moment you begin thinking of the problem. (An amnesia suggestion was also given. The number of boxes was 6. These were the usual pamphlet boxes of a library. The record does not show whether they were a specially arranged group, or the set that usually stood among many closely packed folders also opposite O. His later reference to folders indicates the latter. If so, E cannot, of course, say that O did not already know the number of these. There was nothing, however, in the usual course of events in the room, to call his attention to them, so far as E knows.)

## INTERIM STAGE:

E: Tell me what has happened. O: I can't.

E: Try. O: (After long pause) It seems as though I knew, but I can't remember anything in particular—much like trying to remember a dream; only I usually remember something of a dream; in this case, less.

E: Have you been doing anything, since you woke up, that has any connection with anything that happened in your sleep? O: No. I can think of things that *might* have something to do with it; but don't think they would with what you'd ask me.

E: What were these things? O: What I was going to do after I left here; and other casual things—the folders on the shelves opposite, books, etc., because I always think of what I'm looking at.

## HYPNOTIC STAGE 2:

O raised his hand and after about 2 seconds said 354 (correct).

E: What is that? O: The answer to the problem.

E: When did you do it? O: When talking to you. I didn't know I was doing it then.

E: Why did you raise your hand? O: Because you told me to.

E: When? O: When I began to think of the problem.

E: Did you know the answer when you raised your hand? O: I think I did.

E: Why did you wait so long before giving it? O: I didn't think of it right away.

E: But you did when you raised your hand (not necessarily, of course, according to the strict letter of the instructions). O: I don't remember when I raised it (though he seemed to remember that shortly before).

E: Did you try to recall, before you were rehypnotized, what happened in the previous hypnosis? O: Yes. I knew it, but could not recall it.

E: Were you answering honestly? O: Yes. I didn't know it then; but I do know now that I did then. I wasn't conscious of it then.

E: When did you notice the boxes? (It would have added confirmatory detail had E tried first to evoke the knowledge—if it existed—that boxes were in question.) O: As soon as I opened my eyes.

E: Did you know what you wanted of those boxes? O: Not then, but now I do.

E: Why did you forget your experience? O: Because you told me I'd forget.

E: Are you asleep? O: No.

E: Are you awake? O: No.

E: What, then? O: Hypnosis.

E: What does it feel like? O: Mostly like sleeping.

POST-HYPNOTIC STAGE:

E: Do you remember what took place? O: No.

*Probative character of this experiment:* Having forgotten the plan provided by E, O gathers data according to that plan, while in some way unaware of so doing, afterwards recalling both, without access to any information outside himself; asserting (unverified) that he had at the same time been performing co-consciously a multiplication, in further execution of the plan; asserting, also, co-consciousness about the plan, viz., that he both knew it and did not know it.

The objective evidence shows that the multiplication was indeed performed; but not beyond a doubt that it was all done in the Interim Stage.

It is only the taint of suspicion attaching to the source of the data that prevents it being included in the probative group of Part II.

*Associative relations among the several stages and subgroups:* Hyp. 1 is very vaguely associated with ("known" to) the dominant group of Int. and fully with the subdominant group. It is also associated with Hyp. 2, but not with Post-hyp. The subdominant group of Int. is dissociated from the dominant group and reunited with it in Hyp. 2, while both are dissociated from Post-hyp. Hyp. 2 is also dissociated from the latter.

EXPERIMENT III.

April 28, 1920, 2 P.M.

P: G. E. H.

E: C. T. B.

R: H. W. L.

HYPNOTIC STAGE 1:

E gave the following directions to O: When you awake you will be given a chance to write automatically. You will be shown a paper containing several digits. For each digit you will make the corresponding number of marks—circles for black-ink digits, crosses for red-ink digits, arranging them, for each digit, in a row beneath the marks for the preceeding digit, and you will not be aware of what you are doing. (This was said carefully twice; and then) Do you understand? (Affirmative reply.)

INTERIM STAGE:

O does not recall what happened in the preceding stage; cannot tell; cannot get it at all. He then takes his place at the writing table.

E: Do you know what you are going to write? O: No.

E: Do you expect me to tell? O: Yes, or else I wouldn't know what to write.

Test shows that writing hand is not now anaesthetic.

E: What did you say you were going to write? O: You haven't told me.

Paper is now shown to O, containing 397, the 9 in black ink, the other digits in red.

E: Does it mean anything to you? O: No.

E: Did you do anything with it? O: No, it meant nothing to me.

E: How do you pronounce it? O: 397.

O has, however, been making crosses and circles that carry out correctly the suggestion given in Hyp. 1. Test shows that no touches on the writing hand are referred to it. (Record leaves it in doubt whether these were referred to the arm on that side.)

O is now shown the number 246, the 4 in red ink, the other digits in black.

E: What does that mean? O: 246. It doesn't mean or recall anything.

As before, the writing hand has been executing correctly the original suggestion. Test shows that the hand is anaesthetic.

E: What did red ink mean? O: I don't know any more than what black ink did.

E: Think you can't tell us what it meant? O: No.

E: It recalls nothing? O: Not a thing.

E now observes that the hand is writing.

E: What are you doing with your hand? O: Not doing anything with it.

E: Now what did black ink mean? O: I don't know what it meant. Didn't mean anything.

E: Can you name all the men in your fraternity? (O gives an extended list.)

Tests again show anaesthesia of the writing hand, which has been producing the following script:

*I was to make crosses | when there was red ink and | circles with the black | and the numbers of | digits I was to make the | numbers equal to them | on the paper. (New sheet.) Black ink meant to make | circles equal to the number of | digits*

Here are the correct replies to the questions which O has, at the same time, been declaring his inability to answer, and they are not written in response to any suggestion that E is aware of having given.

The screen being now removed and the writing hand touched in O's sight, he responded to every touch, declaring that this touching of the hand seemed like a new experience.

E: Have you anything more to say about your experience in this experiment? O: No.

E: Have you told all about your inner experiences? O: Yes, practically all.

E: Can you squeeze out anything else that I might be interested in knowing? O: No, not a thing that is at all important.

E: Have I just asked you your name? O: No.

E: Sure? O: Yes, absolutely.

Being pressed to report all he can that is pertinent, O continues.

O: I remember a feeling of a length of time, of events happening without meaning—in the chair before coming to the table.

E: What events without meaning? O: Those in hypnosis—a sense of things happening, but I don't know what they were.



E: Is it ever a bare blank? O: Yes, but not this time.  
 E: Are you awake? O: Yes.  
 E: Are you sure you are not now in hypnosis? O: Yes.  
 Tests for suggestibility fail.

#### HYPNOTIC STAGE 2:

E: What do you remember? O: I knew what it was all the time; but I didn't know it myself. I knew it, but couldn't think of it—couldn't think of it at all; but I really knew it all the time.

E: You were playing a game on us, weren't you? Deceiving us? O: No, for I didn't know.

E: You mean that you didn't, and yet did, know? O: No, I really didn't know it then—couldn't think of it, but really knew it. Like knowing a name and not being able to think of it; but more so, for in remembering a name you know that there is a name, but I didn't know that there was anything to remember.

E: Shall you be able to remember when you wake up? O: No, for I never do.

E: Can we believe these statements of yours? O: Yes.

E: What would you say if L..... (a visitor at this experiment) doubted everything? Could you say anything in answer? O: No, for there's nothing else to say.

E: Would you like help in recalling these experiences when you wake up? O: I don't care.

He was then told to waken when L..... should rap. Not accepting this suggestion, O was told to waken when E should count three (a very common mode of wakening in these experiments). Accepted: O thereupon is fully awake.

#### POST-HYPNOTIC STAGE:

E: Can you remember anything that took place? O: No. I feel as though I had been through a nightmare—feel confused, a disagreeable experience.

E: Why nightmare? O: It felt like trying to run and not being able.

*Probative character of this experiment:* The evidence consists in the production of written signs according to complex directions, which involved getting new information from the environment, also correct answering of questions, all of which was apparently unknown to another mental group, simultaneously present and intelligently active. At a later time O professes to know *both* of these preceding groups of experience, though, meanwhile, having access to no information outside himself. Unfortunately the records show no experimental check on the correctness of his feeling that he knew; the Memory Test was not fully applied.

*Associative relations among the several stages and subgroups:* In Int. the hand-group has associations with Hyp. 1, while at first the voice-group seems quite without such, though later very vague

memories recur. As between the two subgroups the hand-group is dissociated from (not "known" to) the voice-group, so far as we know the items in that group, except that vision and hearing seem shared between them, at least to an extent. There were no tests as to whether the voice-group is, in turn, dissociated from (not "known" to) the hand-group. Hyp. 2 reunited both groups of Int.—according to O's assertion, which, however, was not further tested. No tests were made for direct connection between the two hypnotic stages. Post-hyp. shows vague associations from earlier stages. The present evidence does not permit us to decide as between Int. and Hyp. 2. The only reported memory is that of a felt inhibition. There is apparently no association with Hyp. 1, but O was not pressed particularly on this point.

## EXPERIMENT IV.

April 30, 1920, 2:30 P.M.

O: H. W. L.

E: C. T. B.

R: G. E. H.

## HYPNOTIC STAGE I:

Directions to O: When you waken you will be given a chance to write automatically. You will be shown a piece of paper with digits on it. For each digit you will make the corresponding number of marks—dashes for those in black ink, triangles for those in red, arranging them in rows under each other. You will not be aware of what you are doing, nor will you remember this suggestion. (These directions were repeated; then) Do you understand? (Affirmative reply.)

## INTERIM STAGE:

O is able to recall many details of events in the preceding hypnosis—events concerned with testing the depth of hypnosis; but he does not mention the foregoing directions. Being seated at the table, the right hand behind a screen and holding a pencil, he states in reply to a question, that this situation does not remind him of anything occurring this afternoon. (This was the first experiment of the day.) He is now shown a paper containing the number 4296, the outside digits in black, the inner in red.

E: What does this remind you of? O: Nothing except George's experiment yesterday afternoon (describing it). (The two experiments were alike in form, but differed in content—i.e., in the digits selected and in the marks to be made by O. Hence, knowledge of the earlier could not insure a correct performance of the present one.)

E: Does it make you think of anything else? O: No. The numbers don't stand for anything to me, either.

Meanwhile his hand has made 4 dashes, in horizontal series; and, similarly, below this, 2 triangles, 7 dashes, and 6 triangles, each series under the preceding. (The first two are correct; the third should have been 9 and in triangles; the fourth should have been in dashes.)

To O is now shown a paper containing the number 6724, the digits alternately red and black.

E: What are you doing with your hand? O: Moving it around.

E: What are you making? O: Nothing—just moving it around.

Tests for anaesthesia were negative.

Meanwhile O's hand has made the following five groups of triangles and dashes:

(1) 7 triangles, 7 dashes, 2 triangles, 4 dashes (all correct except the first).

(2) (Correct group.)

(3) (Correct group.)

(4) (Correct group.)

(5) (Group showing confusion and not easily decipherable.)

This perseverance in fulfilling the suggestion by repetition of the execution, matches the instances of word- and phrase-repetition in automatic writing. Such multiplying of instances was not contemplated in the original suggestion.

O is next shown the marks he had been making.

E: Do these recall anything to you? O: No, except what George was doing yesterday.

E: Do they mean anything to you? O: I imagine that the triangles mean one thing, the dashes another.

E: Do they remind you of anything in your own experience? O: No.

#### HYPNOTIC STAGE 2:

E: What were you doing when sitting at the table? O: Writing.

E: What? O: (Repeats the directions given in Hyp. 1.)

E: Did you do this? O: Yes.

E: Did I show you the paper on which you made these marks? O: Yes.

E: What did you say? O: I imagine it was like George's experiment yesterday (substantially correct).

E: When I asked if it recalled any part of your own experience, what did you say? O: I said no.

E: Was that the truth? O: Yes.

E: Were you aware of what the hand was doing? O: I know it was moving.

E: Did you know what it was making? O: No.

E: How could that be? O: You told me I wouldn't remember.

E: You say you remember now what you were doing then? O: (No answer.)

E: Did you know you were writing those symbols? O: I knew the hand was moving.

E: Do you think you did it correctly? O: Yes.

E: Did you have any doubt while doing it? O: I don't remember doing it.

E: What makes you think you did do it? O: You showed me the paper.

E: How do (did?) you know what the marks meant? O: You told me before what I was to do.

E: Think hard to see whether you can recall doing it? O: Can't seem to think.

(There was no Post-hypnotic Stage in this experiment as E proceeded at once to use Hyp. 2 as the first hypnotic stage of a new experiment.)

*Probative character of this experiment:* O executes, according to a plan received, a task that involves gathering new information. Of all this he is in some way unaware. He afterwards correctly states the plan but cannot remember executing it. Had he remembered, it would not be of real importance, since E had shown O in the Interim Stage what O had done. The memory test thus, in part, fails and, in part, cannot be applied, because of the events in the Interim Stage. The main part of the proof, however, is not hereby invalidated.

*Associative relations among the several stages and subgroups:* Hyp. 1 is associated in part with each group of Int., and is also associated with Hyp. 2. The hand-group is dissociated from (not "known" to) the voice-group to the extent at least of the *meaning* both of numbers read and of hand movements executed. For the reverse relation no evidence appears. The two groups are, apparently, not reunited in Hyp. 2.

*Comments:* (1) The errors in execution to be found in the automatic writing do not invalidate the probative character of that writing. They were too close to the plan to be acceptably viewed as having merely a physiological meaning. (2) A strong impulse behind the dissociation of hand-group from voice-group seems to be indicated in the fact that calling attention to the hand or the number is not sufficient—contrary to what is usual in normal states—to make clear and vivid the peculiar meaning of either.

## EXPERIMENT V.

April 30, 1920, 4:15 P.M.

O: G. E. H.

E: C. T. B.

R: H. W. L.

## HYPNOTIC STAGE 1:

An interruption which took E outside the room for a few minutes after the induction of hypnosis left O longer than usual asleep without special suggestions intervening. This should be borne in mind in connection with O's felt depth of sleep, as reported later. On returning to the room:

E: What has been going on? O: There has been talking. (E had been in conversation just outside the door.)

E: Is there any one else in the room? O: Yes (giving R's name).

Directions to O: I am going to give you a problem. You will add two numbers. The first is 682. When the second is given you will waken at once. You will remember nothing but will write the answer automatically. (Directions repeated: then) Do you understand? (Affirmative reply.) The second number is 947.



## INTERIM STAGE:

O feels that he has been more deeply asleep than ever before; remembers nothing, and does not feel that there was anything to remember. He seats himself at the table, right hand behind screen, and begins writing at once, that hand becoming anaesthetic.

E: What are you doing? O: I heard my hand writing.

E: Close your eyes. (O does so; writing stops; anaesthesia remains.)

E: Look at your right hand? (O does so; feeling is at once restored.)

E then tries tests for suggestibility. O's reactions are slow: he says:

"I don't want to do the things suggested." Finally, with eyes open, he becomes fully docile to motor suggestions; and when E, pointing at O, says firmly: "You will go to sleep," he falls at once into hypnosis and returns to the armchair.

Meanwhile O's hand had been writing 1629 (correct) about sixty times. The digits were usually clearly formed, and usually with a wider space between repetitions of the number than between the digits. 16229, 62, 1929, 16, 1626, 11629 each appeared once, involving, in these errors of doubling, omission, and substitution, each one of the four digits.

## HYPNOTIC STAGE 2:

E: What were you doing in the writing chair? O: Writing 1629 (correct).

E: When did you solve it (the problem)? O: Before sitting down.

E: Was it all finished before sitting down? O: Yes.

E: Did you do it after you first woke up (*i.e.*, just after waking)?

O: Yes.

E: What wakened you? O: The second number.

E: (Determined, evidently, to have no doubt left on this point) Did you do the problem before waking up? O: I don't think so.

E: What were you doing before sitting at the table? O: Talking—not solving the problem then.

E: Were you awake or asleep when I suggested that you couldn't raise your hand? O: Awake—I felt as usual.

E: Why didn't you do the things (referring to inhibitory suggestions)?

O: I didn't want to.

E: Did you feel then as you do now? O: No. I had my eyes open.

E: Could you open your eyes now and stay asleep? O: Yes.

E: Were you then asleep even though your eyes were open? O: No, I don't think so—until I sat in this chair.

E: You will open your eyes but stay asleep. (O does so.) Do you see this letter in my hand? O: Yes.

E: What is it? O: S—the first letter in sixteen-forty-two (1642).

E: Why? O: Only thing it could be. (See introspection below.)

E: Have you anything more to tell about the problem? O: No.

E: When you waken you will remember what you have gone through.

## POST-HYPNOTIC STAGE:

O is able to recall experiences of Hyp. 2. Then:

E: (Referring to the writing chair) Do you remember what went on there? O: Yes (but he finds that he can't recall).

E: Try again. O: Writing 1629.

E: Why? O: Because that was the answer to the problem given.

E: When did you remember? (This obscurely phrased question seems to have referred to recalling the task to be done.) O: Before I sat down at the table.

He recalls also what took place, says the record, "in last session," meaning, presumably, in the next preceding experiment upon him in hypnosis, a day or two before—April 28.

E: How do you feel when asked whether you are awake or asleep? O: I can't tell—I don't really think about it.

E: Do you feel differently now from the way you felt when at the table? O: Yes (adding, in reply, probably, to a series of prodding questions), I notice myself and feel excited; but I did not, at the table. I feel breathless after hypnosis, but not generally (*i.e.*, when hypnosis is not in question). I feel rather excited—an objectless excitement—the body excited but not the mind. I feel some discomfort.

He recalls the S in E's hand—the first letter of sixteen-forty-two. He had thought of 1629, which he had been writing, and 1642, a date, both beginning with S.

*Probative character of this experiment:* O is able to produce intelligible writing according to a plan known otherwise to E, while engaged in intercourse with E and apparently unaware of the meaning of his right-hand movements. "Apparently unaware" is the most that the evidence permits us to say; and this is inferred from the fact that, when asked "What are you doing?" O replies merely, "I heard my hand writing." He does not state specifically that he is aware of nothing else. The Dissociation Test was thus not quite properly applied. Later, however, he recalls correctly what he was doing, without, meanwhile, having access to any source of information outside himself.

*Associative relations among the several stages and subgroups:* Hyp. 1 is associated with (*i.e.*, "known" to) the hand-group of Int. but not with the voice-group. It is associated with Hyp. 2 and with Post-hyp. The voice-group of Int. is associated with Hyp. 2 and with Post-hyp. The hand group is associated with both Hyp. 2 and Post-hyp., and partly dissociated (meaning of the writing) from the voice-group; and the two groups are reunited in Hyp. 2. Hyp. 2 is by suggestion associated with Post-hyp.

*Comments:* (1) The kinesthetic system of the writing hand is not dissociated from the voice-group. Even the touch system of the same hand can be drawn back by the aid of the visual function. (2) The abnormal character of Int. is indicated by the high degree of suggestibility. (3) The perseveration in the writing was independent of the form of the suggestion, so far as E

can discover, but O had seen similar results from another observer. (4) The problem-solving does not yield any evidence for co-consciousness. O thinks it was done in Int. and locates it very precisely, as between rising from the armchair and sitting at the table. E's questions were not sufficiently directed to this matter. So the nature of this highly interesting process is left in obscurity. (5) O interprets in Hyp. 2 his inhibitions in Int. as lack of desire. This is frequent enough as a delusion in hypnotic phenomena. (6) The cause for O's selecting an S from sixteen-forty-two (1642) as a date is obscure. (7) Closing the eyes during the act of writing seems to lessen dissociated activity. (8) In Int., O feels less aware of his body than in Post-hyp. (9) Spontaneity in hypnosis is shown by the selection of a particular letter to be seen in the palm of E's hand; but that choice is evidently closely related to an earlier number suggestion of E.

## SECTION 2. EXPERIMENTS A-C

(This group of three experiments conforms to the Dissociation Test, but is defective in other tests of our canon. The probative value seems, however, to be high.)

### EXPERIMENT A.

April 13, 1920. Probably about 3:30 P.M.

O: G. E. H.

E: C. T. B.

R: J. L. B.

(This is the third experiment in hypnosis with this observer on this date.)

#### HYPNOTIC STAGE:

O was asked whether there was any poetry which he could repeat from memory. He mentioned Coleridge's *Ancient Mariner*, saying that he could repeat about fifteen verses (?) beginning at Part II. He was told that on awaking he was to write them out.

#### POST-HYPNOTIC STAGE:

(Corresponding to the Interim Stage of other experiments, except that, in this experiment, there was no second induction of hypnosis.) O responds negatively to tests of suggestibility. He does not remember the events of the preceding hypnosis. After O takes his seat at the table and grasps a pencil, put into his hand behind the screen, E begins:

E: Does this suggest anything to you? O: No, but I guess I may have been told to write something. It is only a guess.

E: Do you remember what you had for lunch? O answers correctly as verified by his fellow boarder, R.

O is then given a copy of Aesop's Fables and told to read aloud at a designated place. He reads about six pages, clearly and intelligently, laughing at jokes. During this time his right hand has been producing the following confused and disjointed piece of writing—one of his worst. It begins with Part II of the *Ancient Mariner*, according to the suggestion, but skips about from point to point between Part II and Part I. The record does not show at just what juncture in the foregoing the writing began.

*The sun now . . . east* (an error, corrected in next line) | . . .  
*right . . . came hee* | . . . | . . . (For the next two legible words  
he goes back three stanzas into Part I) *albatross . . . follow . . .*  
(He then skips forward to the fourth stanza of Part II.) *God's | own*  
*head . . . then . . . averred . . . that* (incorrect insertion  
of conjunction) . . . | *killed the bird . . . mist* | (For the next  
two words he goes back many stanzas into Part I.) *and snow . . .* |  
. . . (He skips ahead several stanzas in Part II from the point pre-  
viously reached in that part.) | . . . *Sun . . .* | (Next word is  
apparently a mere repetition. He started a new page with it.) *Sun . . .*  
*mast copper | sky.* (This is the confused representation of the following:



"All in a hot and copper sky, the bloody sun at noon, right up above the mast did stand." Then a skip over one stanza.) *Water water everywhere* | (Then reverting several stanzas) *and I had* (then back to the "water" stanza again, using a wrong but frequently quoted turn) and *not . . .* | (the next line written from right to left) | . . . | . . .

At the close of the foregoing writing, tests for suggestibility were negative except in the concealed writing hand where they were positive, though O supposed he was resisting them successfully there as well. This hand was also anaesthetic to the wrist. Once he failed to execute a command with his right hand, though declaring he had done so. Once when his right hand was touched, in the test for anaesthesia, he located the touch in his right hand. Repetition showed him to be in doubt and that his locating was inferential. He said it must be his hand since the place touched was the end of his arm. Feeling was restored by telling him, when his eyes were closed, that after his left hand should have been touched by E, he could experience feeling in his right. He could now resist suggestions, whether his eyes were open or shut; but his right hand seemed to him to feel no different. He stated that he had paid no attention to his right hand while reading; that the reading was quite easy; that he was very much interested; and that he could remember what he had read, speaking of the title (not specially tested so far as the record shows); that, further, his only knowledge of the act of writing was inferential.

He was then given the book and told to repeat the previous reading. He did so with no apparent difference. A few moments after starting, his right hand picked up a pair of compasses lying near and began making writing movements, apparently, on the table top. Stopping to turn a page with that hand, he kept it on the book.

A test with compass points, to determine whether an apparently chance thought of numbers could be really determined by the number of pressures given to the anaesthetic hand, was a failure. Not a single number reported corresponded exactly to the pressures given. The record was as follows:

Number impressed.	Number spoken.
4	27
6	16
7	51
2	81
4	41
1	99

*Probative character of this experiment:* O wrote fragments of once learned poetry, according to a previously arranged plan, while in some way not remembering what the plan was, nor aware, at the time, that he was writing, nor paying any attention to that hand. At the same time he was reading aloud intelligently in a manner not apparently different from that shown later when no writing or other suggestion was being performed. He appreciated the meaning of what he was reading well enough to laugh at its humor. He felt, as he later reported, that the reading was

easily done; he could recall it, and was much interested in it. He could engage in conversation and recall other facts of recent occurrence, all this performance being very different in fluency from those others in which the same O was trying to do several things at once (see Exp. X, 1, 3-5). The writing-hand system was so disconnected from the remaining system that O was deluded both as to what did and what did not happen to it.

The Memory and Perception Tests were not applied. The fragmentary nature of the writing indicates that the hypothetical co-consciousness was imperfect in function, though, to be sure, the illegible parts may really be the representative of the needful connecting ideas.

This evidence does not exclude the possibility that O, having chosen in Hyp. 1 the subject of his writing, executed the task without mentality. In the light, however, of the satisfactory evidences found in other experiments the disconnected function in the present experiment may be interpreted as psychic and the facts of it thus confirmatory of the hypothesis of co-consciousness.

*Comment:* (1) It is a matter of some interest to note that in all the experiment O's right hand felt in no way peculiar. He was aware of no dissociation, no alteration of function. (2) Feeling could be restored to the screened hand by suggestion from E. (3) The recurrence of automatic writing during the second vocal reading was self-initiated—due, perhaps, to its association with the earlier reading. The failure to get a record of this was opportunity neglected. (4) The felt signs of bodily self-control, whatever they are, may exist, apparently, regardless of the actual events in the member in question. (5) The failure to influence the choice of numbers contrasts with the success of other attempts to this end recorded among these experiments.

#### EXPERIMENT B.

May 5, 1921, 2:00 P.M.

O: J. L. B.

E: C. T. B.

R: G. E. H.

#### HYPNOTIC STAGE 1:

Directions to O: When you waken go to the automatic-writing table and write anything you like. You won't be aware of anything you are writing.

## INTERIM STAGE:

E: Do you feel as though you had had a deep sleep (objectionable as a leading question)? O: Very much so. (In Hyp. 1 had occurred the experience reported at the end of the record of May 3, 1921.)

O took his place at the table, and put his right hand behind the screen, talking as he did so about the students' celebration of the preceding night. This continued some minutes as a conversation between O and E. O was slow to begin writing—or E to note it. At length E observed that O was making writing movements with his fingers, which had not yet grasped the pencil. Thereupon E slid the pencil along until it came into contact with O's hand. Then O promptly picked it up and began writing at once. During a short pause in the conversation, before the pencil-writing began, a far-away look settled briefly on O's face. His hand wrote as follows:

*What are you thinking about | . . . what are you thinking about | why . . . I want | to be asleep. I don't like to | I know . . . I know what | . . . what I am writing about | I am happy when I'm asle (runs off paper) | happ asleep—happy asleep | happ asleep. when I am | asleep | whe when I'm |*

The following dialogue, occurring after the conversation aforesaid, influenced the writing:

E: Are you awake or asleep? O: Awake—pretty much so; (and, in reply to more questions) not wide awake; not so wide awake as when I first came into the laboratory.

Tests for anaesthesia of writing hand with a knife-point and of other parts of the body with E's finger gave positive results for the hand in question. O could not control that hand, though he thought he could; it accepted E's suggestions, while the left hand did not.

E: What have you been doing? O: Talking to you about things (enumerating all the topics).

E: What else? O: You have been touching me. I have been doing, or not doing, the things you told me to (referring to tests of motor control, evidently). I've been sitting in the chair.

E: Is that all? O: Yes, but I can guess a lot.

E: Well, guess. O: That's hard work, too.

Lack of time made E hurry on without following this lead further.

## HYPNOTIC STAGE 2:

E: What were you doing at the desk (table was meant)? O: Writing.

E: What else? O: You were touching my hand with a pin or something.

E: What were you writing about? O: Nothing in particular. You told me to write anything I wanted to.

E: Did you? O: Oh yes, but I didn't want to.

E: What did you write? O: Happy while I was asleep (correct). I wrote the question you asked me first (*i.e.*, just before O was awakened from Hyp. 1, viz: "What are you thinking of now?" (correct); what I was writing at the table (viz: "I know what I am writing about." The exact meaning of this reference in the record is not clear. Perhaps this clause, taken here as a third identification, should rather be considered explicative of the second assertion. In that case it would be equally a true report of facts, since E had asked, in Hyp. 1, this question also: "What did you write about?").

## POST-HYPNOTIC STAGE:

E: Do you remember anything about what has happened? O: No.

E: Do you remember about sitting at the table? O: Guess so. I don't know whether I remember it or whether you suggested it (referring, it seems, to the possibility of a post-hypnotic suggestion).

E: Do you remember anything that happened while at the table? O: No—just talking—don't remember what about.

E: Is that all you remember about it? O: You were talking about the baseball trip.

E: Were you talking about it, too? O: Yes.

E: Do you only remember talking? O: Yes. Oh! you were telling me I couldn't do things and I could. That's all I remember.

*Probative character of this experiment:* O wrote on topics spontaneously chosen, while, in some way, unaware of so doing as well as of a special stimulus applied to the writing hand, and, indeed, occupied at the same time with animated conversation, yet he recalled afterward the content of the writing and the special character of the stimulus, though meanwhile without any source of information other than the original experience.

This evidence is called confirmatory rather than probative, because, by itself, it does not exclude the possibility that O chose his topics in Hyp. 1, executed the writing without mentality, and recalled in Hyp. 2 merely what he had known in Hyp. 1.

*Associative relations among the several stages and subgroups:* Whether Hyp. 1 was associated with ("known" to) the voice-group of Int. was not tested; this connection existed with the hand-group; also with Hyp. 2, but not with Post-hyp. In Int. the hand-group was dissociated from the voice-group, though not completely, it seems ("I can guess a lot"—but "that's hard work, too," from the voice-group). The hand-group persisted in Hyp. 2. The only evidence that the unity of the partial groups had been restored is in the fact that the voice function was acquired by the hand-group. No test was made as to the retention of the voice-group experiences. In Post-hyp., however, only the voice-group survives. There is no trace of Hyp. 2.

*Comments:* (1) The peculiar feeling in Int. of being awake but not wide awake appears again. (2) Though the control of the writing hand was actually lost, it did not seem so to O, who had the illusion of control over it. It is regrettable that O was not questioned in Hyp. 2 in such a way as to discover whether there existed any latent knowledge of the real situation. (3) O preferred the hypnotic sleep to the dissociated functioning of Int.



## EXPERIMENT C.

May 21, 1920, 2:45 P.M.

O: F. W. A.

E: G. E. H.

R: H. W. L.

## HYPNOTIC STAGE 1:

Directions to O: When you awake you will have a chance to write automatically. You will be shown a paper with digits. For each digit you will make the corresponding number of marks, circles for black-ink digits, crosses for red-ink digits; arranging them in order under the preceding marks. You will not remember anything.

## INTERIM STAGE:

The record does not show at what point in this stage O took his place at the table. The usual conditions of automatic writing were maintained, as shown in the conversation of Hyp. 2.

E: What do you remember? O reports correctly experiences that were tests of the depth of his hypnosis. "Then after I sat down I woke up." (The writing suggestion is evidently not recalled.)

E: Why did you wake up? O: I don't know.

O is now shown the number 246, the 4 being in red, the other figures in black.

E: Do you remember it? O: No.

E: When you were sitting with hands clasped, did you actually struggle to take them apart (referring to a suggested disability in Hyp. 1)? O: Yes.

E: What does it feel like to be hypnotized? O: Somewhat like going to sleep.

E: Do you notice other things beside my voice? O: Naturally.

E: Do you pay attention to them? O: No.

E: Did you feel different in hypnosis from out of hypnosis? O: I do somewhat, I don't know exactly how. I don't notice anything when I'm hypnotized except what I'm told.

E: Are you asleep or awake? O: Awake.

Tests for suggestibility are here negative.

E: What are you doing now? O: Answering questions.

E: What is your right hand doing? O: Moving about a little bit. I imagine the pencil is making chicken marks on the paper. (He is evidently not aware of the meaning of what his hand is doing.)

Tests showed that the right hand was not anaesthetic. Meanwhile that hand had been writing. It did not produce what O was told to do, but something that clearly had been determined by the suggestion. That writing follows:

*I* (might be "2") | *make* (might be "woke") | *nswer in 2 6* | ○ × ○ | 246.

By the most favorable reading of the foregoing, it appears that O's hand is trying to show what it must do to carry out the plan on the basis of the number presented. The respective colors of the several digits have been noted and their bearing upon the execution of the plan. As the digits are black, red, black respectively, so the hand writes in effect: *I make* (a) *nswer in* (—Let's see!) *2 6* (both black—that means circle, cross, circle) ○ × ○ (that's the order for) 246.

The writing stops at the point where O has determined the mode of applying the code; it does not actually carry out the suggestion according to that code. The cause of this interruption is not apparent. If, however,

the foregoing interpretation be tenable, we have a piece of evidence of equal value with the full execution of the suggestion; and showing the hypothetical co-consciousness at a different phase of its activity from any shown by the deciphered parts of the writing elsewhere presented in these experiments.

#### HYPNOTIC STAGE 2:

E: What happened in your first hypnosis this afternoon (*i.e.*, Hyp. 1)?  
O: I don't know.

E: Have you been hypnotized this afternoon before this? O: I don't think so.

E: What happened just before you went to sleep? O: I came to the laboratory—read a book on dreams—you came late. I sat in your chair with my arm behind the cardboard (*i.e.*, screen).

E: Were you doing anything when in the chair? O: My hand was making scratches on paper, probably automatic writing (but he declares a little later that he was writing nothing).

E: Does 246 remind you of anything? O: Yes, you showed it to me.

E: Does it make you recall anything else? O: A problem I did the other day for Henry (the present R).

(R asks:) Does red ink make you think of anything? O: The 4 was in red ink (correct).

E: What makes you think you were automatically writing? O: That's the way to do it.

E: Did I tell you to do any automatic writing? O: (Emphatically) No.

E: Do you remember the floor swaying (an hallucination of Hyp. 1 recalled in Int.)? O: No—when? I said something about it (correct).

E: When? O: Just before I was hypnotized (*i.e.*, the second time). I don't remember experiencing it.

E: What did you do before going to the writing table? O: I put dream book back and came back to the chair I am in now (always used for hypnosis).

E: What did you do when you sat down in the hypnotic chair? O: Nothing.

E: What was I doing? O: I have forgotten.

E: What did you write automatically? O: Nothing.

E: You said that you did. O: Did I? I don't know what it was.

E: Do you remember a problem you had to do? O: When?

E: Did you have one? O: Not this afternoon (correct).

#### POST-HYPNOTIC STAGE:

E: What do you remember? O: Talking to you—don't know what I was talking about. Something about the dream book (correct). I don't remember what. Something about chicken (correct—"chicken marks").

E: What did you say about it? O: Don't remember.

E: What else? O: I remember hurting finger with ring—your sitting down over there at the table—that I stood up, though I'm not sure. (Then, with emphasis) That's all I can remember. Very vague—all of it (applying, according to indications below, to Hyp. 2).

E: How many times have you been hypnotized? O: Two. I'd almost say three—I'd like to say it. (Is this a reference to some felt peculiarity of Int.?)

E: Why? O: I don't know.

E: What happened between the two hypnoses? O: I sat at the table

and did automatic writing, but I guess not automatic writing, for my hand was not anaesthetic. Probably just chicken scratches.

E: Do you usually make chicken scratches? O: Yes, a common thing.

E: Can you remember what happened in the first hypnosis? O: Yes (recalls correctly).

E: Which do you remember more clearly, the first or the second hypnosis?

O: The first. The second is only vague; I felt way off, as though floating in air—a vast nothingness around me. I have felt that same thing sometimes when going to sleep. My skin felt numb when I woke up. I feel all right now.

*Probative character of this experiment:* If we are allowed to take the most favorable interpretation of the script, we have here evidence that lacks only the Memory Tests to be strictly probative according to our canons. O being unaware of the meaning of the script he is producing, and forgetting the original plan provided by E, gathers and interprets data according to that plan, and expresses by his script what he is doing. At the same time he is taking an intelligent part in a conversation, largely on a different theme. He does not, however, carry out E's plan in its entirety, nor can he afterwards recall either that plan or the meaning of the script.

*Associative relations among the several stages and subgroups:* Part of Hyp. 1 is associated with ("known" to) the voice-group of Int.; another part with the hand-group. Dissociated from Hyp. 2 it reappears in Post-hyp. The voice-group of Int. is associated with Hyp. 2 and Post-hyp., while the hand-group does not reappear. Hyp. 2, felt as very deep, is but slightly associated with Post-hyp.

*Comments:* (1) The vigor of dissociation in Int. is shown by the fact that neither the critical number nor talk about O's right hand suffices to bring to his mind the suggested plan and its execution. (2) The absence of anesthesia from the writing hand shows that the dissociated group has drawn less than usual upon the dominant group.

### SECTION 3. EXPERIMENTS K-Q

(This group of seven experiments is defective in the Dissociation Test.)

#### EXPERIMENT K.

April 15, 1920, 3:45 P.M.

O: G. E. H.

E: C. T. B.

R: J. L. B.

The third experiment (second in hypnosis) on this observer during this session.

#### HYPNOTIC STAGE 1:

Directions to O: You will multiply two numbers. The first is 287; the second is the number of wooden spindles in the chair opposite you (not visible, of course, until he was awakened. E cannot say that O had never counted these spindles, but E who saw the chair much more frequently than O had to count them for this experiment). You will give the answer when rehypnotized, raising your hand as soon as you begin to think of the problem. (Directions repeated; then) Do you understand? (Affirmative reply.)

#### INTERIM STAGE:

E: Can you recall anything from this recent hypnosis? O: No.

E: What did it seem like? O: I have no cue to begin with. I don't feel that there is anything there to put my finger on.

He was then asked if various objects in the room reminded him of anything; and then:

E: Does that chair (the critical one) recall anything? O: Yes—sitting there in the previous experiment, seeing it when coming into the room.

E: Anything else? O: No.

#### HYPNOTIC STAGE 2:

(But see below for the probable time of its beginning.) O showed no tendency to do or say anything despite the original suggestion; and so E began to question him.

E: What is it? O: What is what?

E: What is the answer? O: Answer to what?

E: Recall what took place in the recent hypnosis. O: I don't remember anything of it.

E then began to suspect—what proved to be the fact—that O had not been rehypnotized. He was still in the Interim Stage, presumably. The following introspection concerning his psychic state was written by O either at once or, more probably, at the close of the experiment: "On the unsuccessful attempt to induce hypnosis I looked at the shiny ring held above my eyes until it seemed much easier to close my eyes than to keep them open. My eyelids felt very heavy as they always do at this stage. So I closed my eyes, but was by no means hypnotized. As well as I can remember, in previous experiment closing my eyes does not mean I am hypnotized. Then (*i.e.*, in the experiment which occasioned this intro-



spection), 'drowsy, sleepy' was suggested, which *does* make me feel that way; but never do I lose consciousness of my environment or of myself. As nothing more was suggested, I did not fall asleep at all. I think that the suggestions 'now go deeper' and 'you're going down, down, down,' etc., must be the ones that finally induce hypnosis; as I lose track of space, body, etc., but feel as a particle in a vast space without top, bottom, or limits. Usually at first I have a falling sensation, generally accompanying the word 'down,' and at last forget all direction."

Hypnosis being finally induced, O raised his hand and said "1496" (incorrect, but see below).

E: Why did you say that? O: It's the answer to the problem.

E: What problem? O: 187 times the number of rounds (spindles) in the chair opposite (O seems to have misunderstood the first number as given, which was 287. With the data he alleges, his answer to the problem is correct, the number of spindles being 8).

E: When did you get the number of rounds? O: While talking with you.

E: Did you know you were looking at the chair particularly? O: No.

E: When did you do so? O: Almost immediately upon opening my eyes.

E: Do you remember anything else that happened? O: Yes, being given problem, going to table, reading and writing (all in an earlier experiment).

E: Do you remember anything outside the hypnotic sleep? O: Yes (going on to enumerate various topics of conversation occurring that afternoon).

E: You will remember everything that has happened during this experiment. Do you think you can? O: I don't know.

E: Why? O: Because I always forget.

#### POST-HYPNOTIC STAGE:

E: How do you feel? O: Different from the hypnotic state.

E: What do you remember? O: Giving the answer to a problem (correct).

E: What was it? O: A number in four figures—14—something (correct so far as it goes). I can remember things in time sequence only (meaning not clear).

E: What else do you recall? O: Telling problem and how I got the answer (correct); but I don't remember the actual getting of the numbers.

E: How were the numbers present in your mind? O: I saw them.

E: Do you remember raising your hand? O: No.

E: Do you recall anything else? O: I remember being told to remember (correct).

*Probative character of this experiment:* Having forgotten the plan provided by E, O gathers data according to it, while in some way unaware of so doing—at least not being reminded of it *immediately afterward* by having his attention called to the source of data. Yet later he recalls what he did, without having had access, meanwhile, to any source of information outside himself, and states—what is important but objectively unverified—that he obtained the data while talking with E, not knowing that he was looking particularly at the source of the data.

The possibility is not excluded by objective evidence that O obtained the data in an alternating state, *i.e.*, one forgotten immediately afterward. The evidence O offered from introspection may conceivably have been by itself an illusion of memory. The solution of the problem may have taken place after the beginning of Hyp. 2 and, in turn, requires no assumption of co-consciousness.

*Associative relations among the several stages and subgroups:* Hyp. 1 is dissociated from (not "known" to) the dominant group of Int., but causally connected with the hypothetical subdominant group and Hyp. 2; and dissociated, again, from Post-hyp. The dominant group of Int. is associated with Hyp. 2, and partially with Post-hyp., if, as is possible, the introspection was written at that time. O could not, however, recall in this stage the act of getting the number of spindles, though he had recalled it in a preceding stage. The subdominant group is dissociated from (not "known" to) the dominant group at least immediately after it has functioned. It is associated with Hyp. 2 but dissociated from Post-hyp. By aid of a suggestion, Hyp. 2 is partially associated with Post-hyp.

#### EXPERIMENT L.

April 29, 1920, 4 P.M.

O: H. W. L.

E: C. T. B.

R: G. E. H.

#### HYPNOTIC STAGE 1:

Directions to O: You will multiply two numbers. The first is 473; the second is the number of spindles in the back of the chair opposite (not visible, of course, while O is in hypnosis, because his eyes are closed). When rehypnotized, you will give the answer immediately, raising your hand as soon as you think of the numbers: (Directions repeated; and then) Do you understand? (Affirmative reply.)

An amnesia suggestion also for the task in question was given. The number of spindles was 8—or 9—see below. E cannot say that O had no knowledge of this number prior to this experiment, but of his probable ignorance see "Directions to O" of Exp. K (15 April).

#### INTERIM STAGE:

E: Can you remember what happened? O: Yes (proceeding to enumerate correctly various occurrences during E's attempt to test O for depth of hypnosis, including some introspective account of these experiences; then) Seems as though there was something else, but I can't think.

E: Did your sensory experiences feel real? O: Yes. I feel as though there was something else to remember that I can't recall.

E: Would five dollars be an inducement to remember? O: Yes—more material. (But E did not make the offer. It should also be noted that E failed to develop an effective line of questioning to test whether the execution of the suggestion was a dissociated function.)

#### HYPNOTIC STAGE 2:

O raises his hand; shows effort, knits his brows, etc.; then says "four, three, five, seven." (Incorrect, but see below. The error does not seem to invalidate the experiment, as, despite this, the answer so closely follows the plan.)

E: What is this? O: Answer to the problem.

E: Why did they come in that order? O: Came in my mind that way.

E: (Wishing to make sure) How did they come? O: 4, then 3, then 5, then 7.

E: How did they appear? O: I saw them as white figures on a dark background. They just came out (*i.e.*, apparently without effort on O's part).

E: Did you make them come out? O: No, they just came.

E: How did they happen to come? O: I don't know; they just came.

E: How many spindles were there? (A blunder in questioning. The fact that spindles had been in question should have been evoked. This blunder partly interferes with the application of the Positive Memory Test.) O: 9. (Incorrect according to R's record. The laboratory has a 9-spindle and an 8-spindle variety of chairs; and it is just possible that R made an error. On O's count of the number, the correct answer is 4257, instead of 4357 as he gave it. These errors do not seem to invalidate the experiment, because the original plan is so obviously involved in spite of them.)

E: Did you do multiplying? (Another blunder in questioning, of the same type as the foregoing.) O: I don't think so. I didn't multiply them.

E: Is your answer to the problem correct? O: Yes.

E: How do you know? O: It came to me that way.

E: Did it take any effort on your part? O: I don't think I multiplied them.

E: Did you feel any effort? O: There seemed to be an effort just before I saw the figures.

E: What sort of an effort? O: I could feel it in my head.

E: When did you get the number of spindles? O: I don't know. (But see answer to same question below.)

E: When awake last, did you remember this problem? O: I don't know.

E: Did you know what that "something" was, when you said that something was there which you couldn't recall? O: I don't remember. (But see answer to same question below.)

E: Do you remember anything about your state when last awake? O: I know who was in the room. You asked me what I remembered, and I told you (saying this with difficulty); but I told you there was something I couldn't seem to recall (correct).

E: Why couldn't you recall it? O: I couldn't think of it.

E: Do you know what it was? O: About the problem you gave me to do. (Could this have been objectively verified—as of course it could not—it would be important evidence of co-consciousness.)

E: Are you asleep or awake now? O: I think I am awake; I don't feel asleep.

E: But when you talk you will stutter. (O, thereupon, cannot speak without stuttering, showing that he is really in hypnosis.)

E: Was that experience like being awake or asleep? O: I don't feel awake or asleep.

E: How do you feel when asleep? O: I don't think when asleep.

E: Are you now? (This too abbreviated sentence may have referred to the act of either sleep or thought.) O: Yes.

E: Do you hear these voices, noise of train, etc.? O: I hear you. I don't seem to hear anything (else) but rustlings. (A student visitor in the room at the time was then made to address E by name. O heard him speak, and adds:) It seems as if I was in a fog—not awake. (He takes in a breath with a shiver.)

E: Do you feel cold? O: My hands are.

E: How did you get the number of spindles? O: I suppose when I looked at the chair. I don't remember looking at different parts of it.

E: Did you hunt for the spindles? O: No. I wouldn't have any reason to. (Could O, from his previous acquaintance with the laboratory, have known in advance of the Interim Stage, the number of spindles, making it unnecessary to assume any attempt to get this fact in this stage? This possibility is not formally excluded. It is formally possible that participants in an experiment a fortnight before, when the same choice for multiplier was used, may have mentioned it to O. With his honesty beyond question, however, it seems impossible that he should have replied as he did to questions in the Post-hypnotic Stage, without also mentioning such information already obtained, if he possessed it. It is regrettable indeed that the conditions of this experiment did not formally exclude all these possibilities. And may we not also urge that O's inability to recall such information in the Post-hypnotic Stage was merely a case of dissociation? This is a gratuitous assumption not warranted by anything known to E about that stage. The belief seems thus valid that the alleged possibilities are not real.)

#### POST-HYPNOTIC STAGE:

E: Can you remember what has happened? O: Yes—giving you a number.

E: What sort of a one? O: I think it was 4537 (really 4357). You asked how I got it and how I got the number of spindles in the chair.

E: Does it seem easy to revive these memories? O: Some things stand out more than others. I can't seem to remember everything. It seemed as though the numbers drew across in front of my eyes. They didn't just appear suddenly; they seemed to move across in front of me.

E: Do you recall about the chair spindles? O: I can't remember when I got them or why I should get them. I remember looking at the chair, but I didn't pay any attention to it.

O adds the information that he is not good at arithmetic.

*Probative character of this experiment:* O gathers data according to a plan furnished by E, though in some way not aware of the plan. Later he recalls that there was a plan, which in Int. he was vainly trying to remember. He recalls the data, without access to sources of knowledge outside himself; also that he



looked at the source of the data, but paid no attention to that object and did not look for the data.

There is no objective evidence that the actual gathering of the data was a dissociated function; nor is there evidence that O afterward recalled the gathering of the data or what special treatment he gave them. The subjective evidence of dissociation (*i.e.*, the evidence from memory) is definite, but that might have been a mere physiological disconnection, so far as this experiment shows. It is only in the light of other experiments that the facts here brought forward can be regarded as properly explicable in terms of co-consciousness and so as confirmatory of that hypothesis.

It should be noted that but for E's blunders and omissions stronger evidence might have been available.

*Associative relations among the several stages and subgroups:* Hyp. 1 is almost completely associated with ("known" to) Int., the exception being the group of items concerning the problem—a group included within the amnesia suggestion. This group was represented by a disconnected function in Int. but yet was not wholly dissociated. O was aware of something there to be recalled. Hyp. 1 is also associated with Hyp. 2. There is no evidence as to its survival in Post-hyp. Int. is associated with Hyp. 2 and its dissociated functions in part reunited, but only the dominant group persists in Post-hyp., so far as the evidence goes. Hyp. 2 is well associated with Post-hyp.

*Comments:* (1) The mode of solution of the mathematical problem is left an interesting puzzle. O has no introspection that sheds light on this. The performance seems to have taken place at the beginning of Hyp. 2, and, so far as the evidence goes, one is left to speculate as to whether it was a purely physiological, or also a mental, process. The end-product alone comes into view, as visual images of the digits that make up the answer. The introspection leaves it in doubt as to whether at any time the digits were all present together; and, if so, as to whether they were arranged in the space order usual to the four place number intended. (2) It is apparent that a greater skill in questioning than E displayed might have cleared up some of the obscure

places in the experiences here under examination. (3) O's attempt to describe what hypnosis feels like shows uncertainty and is contradictory. (4) The persistent inability to recall the act of getting the number of the spindles may be due to the particular form of the amnesia suggestion in Hyp. 1. The precise words in which this suggestion was given are not a part of the record. At first the entire group of items to which the suggestion was intended to reply was inhibited. Why, later, this item alone should remain persistently hidden is so far inexplicable. (5) O's depth of hypnosis was not such, in this experiment, as to insure amnesia for its events, without the aid of a special suggestion to that effect.

## EXPERIMENT M.

May 4, 1920, 1:30 P.M.

The O was P. J. The record is not clear as to E and R. G. E. H. was by turn both E and R. H. H. assisted as E; and so probably did some one else.

## HYPNOTIC STAGE:

Directions to O: You will multiply two numbers. The first is 85; the second is the number of shelves in the book-case to the right of the door (facing him as he sat). When you are re-hypnotized, you will give me the answer at once, raising your hand the moment you begin to think of the problem. (The number of shelves was 12. It is probable, though not certain, that this number was unknown to O, as the room was nearly surrounded by high cases, having varied numbers of shelves and O had but rarely been in the room.)

## INTERIM STAGE:

O remembers the voice of the hypnotizer and the stroking of his own forehead but not the problem. (The record mentions no attempt to watch O's behavior during this stage, nor to test whether he knew he was learning the number of shelves.)

## HYPNOTIC STAGE 2.

O delayed so long to give the answer that he was asked—"Have you anything to tell me?" O replies "1020" (correct). At first, in answer to questions, he showed ignorance of both problem and its relation to the book shelves; but finally he remembered them and 85. He got the number of shelves while awake, he said; but he did not then know he was counting them nor anything about the problem.

## POST-HYPNOTIC STAGE:

E: Why did you wake when you did? Just felt like it.

E: Can you remember anything that happened? O: I remember saying 85 and your telling me to wake up.

E: Why didn't you wake up when Dr. B..... told you to? O: It didn't penetrate; I didn't feel like doing it. (Dr. B..... came into the room while the experiment was in progress.)

E: What else do you remember from the second hypnosis? O: Nothing.

E: What do you recall from the first hypnosis? O: Nothing.

*Probative character of this experiment:* According to a plan provided by E, O obtains a number by counting objects, whose number he probably did not already know. Though forgetting the plan he gets the number; but whether at that time he knew what he was doing we cannot by objective evidence say. Yet, afterwards, in recalling, without any outside assistance, that he had gotten it, he asserts that he had done so unconsciously and was also then unaware of the problem.

## EXPERIMENT N.

April 13, 1920, 1:45 P.M.

O: G. E. H.

E: C. T. B.

R: J. L. B.

## HYPNOTIC STAGE 1:

Directions to O: I am going to give you two numbers to add together. The first is 147, the second is the number of lines in the paragraph I shall give you to read on awakening. You will give the answer as soon as you are rehypnotized, raising your hand the moment you begin to think about the problem. You will forget everything (E meaning by this, the events of Hyp. 1) on awakening. (Directions repeated; then) Do you understand? (Affirmative reply.)

## INTERIM STAGE:

Being asked to recall everything that had happened, O could remember only the suggestion of sleep at the induction of hypnosis, and the number given to awaken him. (E counted three.)

E: Put your mind on it. O: I don't know where to begin to think.

He was then handed a copy of Aesop's Fables and told to read aloud a designated one of 24 lines, of which one line had but a fraction of a word. The reading required that one page be turned. He read rapidly and clearly, beginning at once and looking up as soon as he had finished. The volume was immediately taken away from him.

## HYPNOTIC STAGE 2:

In 50 seconds after rehypnotizing began O raised his hand and said 169, the correct answer being 171. Though erroneous, this answer seems to be so close to the plan already known to E as not to invalidate the experiment. The error, as shown below, was in counting the lines, the computation was correct.

E: Why did you raise your hand? O: Because I was told to.

E: When did you raise it? O: When I thought of the answer. (According to directions, he was to raise it the moment he began to think about the problem.)

E: What were you doing before you thought of the answer? O: Nothing.

E: What were you thinking? O: Nothing. (In the light of the answer to the later question about adding, the two foregoing replies must be held to refer to Hyp. 2.)

E: Where did the answer come from? O: The sum of the two numbers.

E: What two numbers? O: 147 (correct) and 22 (incorrect).

E: Where did you get 22? O: It was the number of lines in the paragraph I read.

E: When did you add the two numbers? O: After I had finished reading.

E: Before you were rehypnotized? O: Yes.

E: Were you aware, at the time, that you were adding? O: I wasn't thinking about it.

E: If you had been asked, at the close of the reading, whether you were adding anything, what would you have said? O: I would say no.

E: Why? O: I was not thinking of what I was adding.

Then followed a brief shift in type of questioning, occasioned by a problem raised by a fellow student with O in Psychology. He had brought to E's attention a difference of memory between them as to the gown worn by a cousin of O on the occasion of a recent visit paid to her by the two young men. The friend, who was strongly convinced that he was right, wondered whether O, in hypnosis, would likewise have a correct (?) memory of the fact.

E: Do you recall the colors in your cousin's dress when you visited her at the hospital during the holidays? O: Yes.

E: What were they? O: Dark blue dress with buff colored girdle and intersecting circles all over her dress.

E: Of what color were the circles? O: Buff.

At the end of the afternoon when experimenting was ended and O out of hypnosis, he was again asked to tell the color of this gown. He replied: Medium light blue with very dark blue intersecting rings all over the dress; the girdle of buff color. He added that he had had an argument about this with the friend mentioned above, the latter maintaining that the rings matched the girdle and that the dress was dark blue. Unfortunately the record does not state whether this was indeed the friend's recollection, nor what were the actual facts about the gown. There is no doubt, however, that O had very different recollections in and out of hypnosis, respectively; and that in both cases he expressed himself with equal promptness and apparent conviction; and that, further, according to his own statements, his hypnotic memory agreed with his friend, while his waking memory disagreed.

E: What do you think about between your attempts to answer my questions? O: I don't think of anything.

#### POST-HYPNOTIC STAGE:

O could recall nothing which had happened in hypnosis, but from Int. he recalled reading the fable and the number of the page. (This number had, however, been mentioned within his hearing in that stage.) He had but vague memories of the story of the fable. He thought his mind must have been on something else, but he could not remember what? Being told to read it aloud again, he did so, no difference in method of reading being apparent between the two. "Yes, I remember it now," said he.

E: What were you thinking about during the previous reading? O: I don't know. I must have been reading words without getting the meaning.

E: How does that happen? O: I don't know.

To observe his normal power of recall, E gave him another fable to read aloud. Before he had quite finished reading, an interruption occurred in the form of an arrival with whom some necessary conversation took place in O's hearing. In spite of this distraction, he repeated the story very clearly, showing good recollection.



*Probative character of this experiment:* While reading a text in an apparently intelligent manner, O obtained a number according to a plan already known to E. No test was made as to whether O had a clear idea of what he was reading though his manner of doing it was normal, in contrast with the check experiments of Part IV; nor as to whether he was aware of getting the desired number—grave omissions, both. Later, he recalled the number and when he got it, without having had access, meanwhile, to any source of information outside himself. He also reported that, in the same Interim Stage, he was adding the numbers without being aware of it. This introspection, fully indicative of co-consciousness, could not, of course, be verified objectively.

*Associative relations among the several stages and subgroups:* Hyp. 1 is dissociated from the dominant group in Int. but not from the (hypothetical) problem-group. It is associated with Hyp. 2 but not with Post-hyp. The dissociated groups (if there be two) of Int. are reunited in Hyp. 2. In Post-hyp. the dominant group survives very scantily, and the problem group more scantily still—a vague somewhat, if at all. Hyp. 2 is not associated with Post-hyp.

*Comments:* (1) A little new light is shed on the puzzling question of the problem solving function. Subjective evidence is offered that it takes place as a dissociated operation in Int. The attempt to use the hand-raising suggestion as a means to determine when the computation takes place is again futile, since—as O asserts—it is not raised until the answer is ready. This seems to be a curious disregard of an hypnotic suggestion. (2) The felt emptiness of “between times” in hypnosis is again evident. (3) The contradiction between the hypnotic and the waking memories of a given fact is chiefly interesting, perhaps, in its indication of a mode for investigating special causes of falsification. E was strangely blind to the possibilities when he broke off his questioning where he did.

## EXPERIMENT O.

May 18, 1920, 3:15 P.M.

O: P. J.

E: C. T. B.

R: G. E. H.

## HYPNOTIC STAGE 1:

Directions to O: I am going to give you a problem,—to add two numbers. The first is 487 (understood by O as 277, if his recollection may be trusted); the second is the number of words in the first line of the paragraph you will read after awakening. You will write the answer automatically, and remember nothing of what I have now said. (Directions repeated; then) Do you understand? (Affirmative reply.)

## INTERIM STAGE:

Thinking with obvious effort, O gave a few recollections of the preceding stage, some of them incorrect; and finally added: "I can't seem to think very well." Taking his seat at the table, with a pencil in his screened right hand, he was given a particular paragraph to read. There were 8 words in the first line. After reading awile (whether vocally or silently, the record does not state) he said: "I thought of something, can't think now."

E: What is it? O: I am trying to think.

E: Of what? O: I don't know—of nothing (and he continued reading).

E: Do you recall anything more? O: I just thought of something a moment ago—I don't know. (He complained of being hot.) You told me to do something and I turned my head around. No, I can't remember.

Meanwhile O wrote 285 once. (This answer is incorrect according to the actual data; but according to O's recollection of the data, as shown below, correct.)

## HYPNOTIC STAGE 2:

E: Can you tell us what you were trying to remember while sitting in the chair? O: (Repeating the last part of the question) To remember 277. That was a number you gave me.

E: What else? O: You wanted me to write something; you wouldn't tell me what it was (correct).

E: What were you doing, sitting in the chair? O: Reading about the grasshopper, the ass, and the donkey (only partly correct and combining two fables). I held a book and a pencil. I wrote a number—285 (all correct).

E: Why? O: There was 277. Write it and add to it the number of words in the first line of the paragraph (partly incorrect).

E: Why didn't you tell me when you were sitting in the chair? O: I don't remember your asking me. (No specific question put—only general.)

E: Do you remember writing? O: Yes, now. I didn't know I was then. (His statement on this point below is a little more guarded.)

E: What were you trying to remember? O: 277 and words in the first line. I didn't know it then, I just found out now.

E: Did you know you were writing it then? O: Now I do. I didn't remember (*i.e.*, notice?) then whether I was or not, don't think I do (did?).

This pretty large emendation is offered, subject to correction. The record, without some change, seems meaningless.

E: How can you remember now and not then? O: (Screwing up his face) Just forgot.

E: Why do you screw up your face so? O: Trying to think.

E: Are you asleep or awake? O: Don't know—hands are awfully heavy.

E: Why didn't you tell me about it then? (Reference uncertain.)  
 O: Didn't notice it then.

E: Why were you so slow in falling asleep the first time (*i.e.*, to-day)?  
 O: I couldn't focus my eyes.

E: Why so quickly the second time? O: Don't know.

E: Are you asleep or awake? O: Don't know. I feel both asleep and awake.

E: You can't recall your name. O: I can think of it, but I can't say it.

E: When you say it you are going to stutter. (O accepts the suggestion, after his face works and his mouth twitches.)

Being given the usual suggestion to waken, he does not accept it at once, saying that his hand is heavy. The suggestion being repeated in a few minutes, he then comes out of hypnosis.

#### POST-HYPNOTIC STAGE:

O recalled that he had laughed without being able to stop (probably a test for depth of hypnosis). He reported nothing else.

*Probative character of this experiment:* O gathers information and puts it to use according to a plan provided by E, in solving a problem and writing the answer. Though it has some effect on his dominant state, this state seems to be unaware of the function in question and occupied with reading. The objective evidence is not adequate for the conclusion that this function was not a part of the dominant state, though if, once a part, it was immediately forgotten. But later, when recalling, without objective assistance, problem and data, and writing the answer, he asserts that at the time of performance he had been ignorant of data and writing.

*Associative relations among the several stages and subgroups:* By aid of a suggestion, Hyp. 1 is mostly dissociated from (not "known" to) the voice-group of Int., but not from the hand-group. It is associated with Hyp. 2, and in small part with Post-hyp. The subgroups of Int. are reunited in Hyp. 2 but disappear in Post-hyp., as does Hyp. 2.

#### EXPERIMENT P.

May 20, 1920, 1:45 P.M.

O: G. E. H.

E: C. T. B.

R: H. W. L.

(The only excuse and explanation E has to offer for his serious blunders in method, in this otherwise unusually interesting experiment, is his own surprise at the developments. They apparently made him forget his main purpose.)

## HYPNOTIC STAGE 1:

Directions to O: I am going to give you a problem. You will add two numbers. The first is 637. The second is the number of pages you will have turned over in a book to be given you on waking when I tell you to stop turning. You will speak the answer automatically, as soon as you solve the problem, without being aware of what you have done. (Directions repeated; then) Do you understand? (Affirmative reply.)

## INTERIM STAGE:

Receiving the book O turns the pages until, when told to stop, he has turned 13. He thereupon says 652. (Though incorrect, this answer conforms to the plan too well to invalidate the experiment.)

E: What? O: I said "The Ox and the Butchers." (The title of a fable was "The Oxen and the Butchers." Whether O really had said this also does not appear from the record.)

E: What was it? O: I said "The Ox and the Butchers." That was the first thing I said.

E: You are not aware of anything? O: No. (This question, because of its connection with the preceding, is not definite enough to cover the counting of pages. The omission of a supplementary question was a serious blunder in developing the evidence of co-consciousness, so far as the counting-computing function is concerned. If at the time of the performance he was aware of it, with no reservation in the meaning of the term, the hypothesis of co-consciousness is unnecessary.)

E: Are you asleep or awake? O: Awake.

E: Do you know the difference in feeling? O: Yes. I felt sleepy on first awakening.

E: When did you stop feeling sleepy? O: I guess it wore off gradually. I guess talking made me wake up.

A test of suggestibility was negative.

E: What does 13 make you think of? O: Nothing except unlucky number. (If he had counted wrong, this number would not have formed a significant part of his experience; and the question, in that case, would be of no value.)

E: Are you telling the truth? O: Certainly.

E: What does 652 make you think of? O: Nothing special, but it sounds familiar; it must have been 652.

E: What does 833 make you think of? O: Nothing.

E: Does that seem familiar to you as the other did? O: No.

E: What can you remember from the hypnosis? O: Nothing.

E: Would you prefer not to? O: No.

E: What is the last thing you recall in connection with hypnosis? O: I can't recall anything about hypnosis.

E: After fixing your eyes for hypnosis what happens (happened)? O: I don't remember. I don't feel as though anything had happened—no transitional period between the two states.

E: Does 652 seem familiar? O: Sort of familiar.

E: Does 632 seem familiar? O: Yes.

E: You don't know why? O: No.

E: Does 13 seem familiar and, if so, why? O: Because it is a common number.

## HYPNOTIC STAGE 2:

E: What took place just before you were hypnotized this time? (O gives no response even after being urged.)



E: What happened when you were hypnotized before? O: (After some urging) I don't know.

E: Is it hard for you to speak? O: Yes.

E: Why? O: I don't know.

E gives suggestions for ease in speaking. Again no answer from O.

E: What is the trouble? (O is silent.)

E: Pronounce your name. (No reply.)

E: What are you sitting on? (No reply.)

E: Say Bowdoin College. (No reply.)

E: If you know how to say it, raise your left hand. (No response.)

E: If you don't know how to say it, raise your left hand. (No response.)

This failure to raise the hand is hard to explain.

E: What are you thinking about? (No reply.)

E: Who is writing at the desk? ((No reply.)

E: Why are you unwilling to speak? (No reply.)

Tests for motor suggestibility of the limbs are positive.

E: Where were you at lunch today? (No reply.)

Happening to notice that O's right hand showed signs of writing, E sent him to the table, where, without verbal suggestion, O wrote his replies to the following questions, but maintained his former silence. His writing hand was probably screened.

E: What took place before you were hypnotized last? O: *I was turning the pages | of a book, and was to add the | number of pages to 637; | and the answer is 652 which | I said. And then I talked | with you, but I can't | now, because I said 65* (Here the writing runs off the paper.)

E: Why can't you talk to me? O: *because I said 652 | Because I can't say the words | now.*

E: Do you know what words are (*i.e.*, mean)? O: *Yes! | I can't think of them, or how to say them.* (In connection with his other statements, this seems to mean that he can't think words in vocal terms, but only in hand terms.)

E: Can you think of your name? O: *Yes.*

E: What is it? (He writes it correctly.)

E: Do you feel my touch on your hand? O: *Yes 3.* (Record does not show how many times E did touch the hand, nor which hand.)

E: How can I get you to speak? (O produces meaningless marks.)

E: Do you want me to waken you? O: *Don't care.*

E: Is this inability to speak like anything else you have ever experienced? O: *No.*

E: Will you try to remember this experience after you wake up, if I ask it? O: *Yes.*

E: Are you aware of what is going on in the room about you? O: *Yes since you asked me.*

E: I want you to try to remember how to say your name. O: *Can't No.*

E: Why? O: *I can't think . . .*

E: Please repeat what you just wrote. O: *Can't think how.*

E: Can't you talk to me? (O shakes his head.)

E: Would you like to talk to me? (O nods.)

He is then given a suggestion to remember, on awaking, what has occurred.

(A serious blunder in this Stage was the failure to ask O whether he was aware, at the time, of counting pages in the Interim Stage. This prevents the use of the counting-computing function as evidence for co-consciousness;

the function may have been a part of the dominant consciousness. An equally serious omission was the failure to ask O whether, at the time of speaking the number, he was aware of so doing. The source of the error in the number might also have been discovered, by asking O how many pages he counted.)

# POST-HYPNOTIC STAGE:

E: What can you tell us about what has taken place? O: I have been writing answers to your questions.

E: Why write them? O: Only way to answer them.

E: Why the only way? O: Because I couldn't tell you, I had to write it.

E: Why couldn't you tell me? O: I sort of lost all sense of talking; I didn't know what it felt like.

E: Did it disturb you at all? O: Just a little at first.

E: How did you happen to start writing? O: I was writing all the time; it seemed the only way.

E: You did it before I put you at the table? O: Yes.

E: From the first question? O: No, I tried to answer the first question (*i.e.*, vocally).

E: How did it feel? O: Felt as though I had forgotten it, and also that I didn't want to say it.

E: Have you ever had an experience like it before? O: Yes, when very sleepy in the morning and some one tries to wake you up and you don't want to speak to them.

E: Do you recall anything further back than the last hypnosis? O: Yes. I remember looking at the pages of a book and giving answer.

E: Do you recall the number? O: Yes, 652.

E: Were you aware then of giving the number? O: I don't remember about that, but I recall remembering it.

E: When did you remember it? O: When you were asking questions about it in the second hypnosis.

E: You don't recall the original utterance of the answer? O: No.

E: Do you feel awake or asleep? O: Awake, but sleepy.

E: As awake as usual on coming out of hypnosis? O: Hard to tell.

E: Do you feel as you do when you accept my suggestions? O: No, not so sleepy.

E: What did you do with the book? O: I turned the pages.

E: Doing anything else with it? O: Yes, counting the pages.

E: Why? O: For the problem.

E: Did you know you were doing it at the time? O: No, don't think so (important had it been objectively verified). Things that happened then do not feel the same. I remember things then, after the first hypnosis, as I did during the second hypnosis. The Interim Stage does and doesn't seem different from the second hypnosis. I remember them in the same light. I don't know how to express it exactly—I remember what happened the first time (*i.e.*, in Hyp. 1), your giving the problem.

E: Do you ever remember things that you can't tell me? O: Yes, have an inkling, an idea that I can't express in words. I sometimes have ideas that flash through my mind and I forget them, much less can I say them, and these are quite forgotten later on. Some come up later that I couldn't recall at first.

E: Do you dream much? A: Rarely, or at least, I rarely remember them.

E: You many times tell me you can't recall. Do you usually in those cases have those inklings of which you speak? O: Yes, I think so, usually.

E: Is it like the feeling of losing a name? O: No, a different experience. I don't remember as much as that. It is hard to explain.

E: Still more vague than a lost name? O: Yes.

E: Think of a city of Central America beginning with T. O: I can't recall, but this feels different.

R asks: What is my sister's last name? (She is known to O, but has been married not long since.) O: I can't recall. Some (experiences in this experiment) seem like this: other attempts would be even less successful. This seems like the attempt to remember some of the hypnotic experiences; other attempts yield even less.

E: Do you still remember the difficulties with speaking? O: Yes, but I don't remember what it was like.

E: Does it seem like a possible experience? O: It doesn't seem possible; I can't quite imagine it.

*Probative character of this experiment:* O obtains data, performs problem, and gives the answer orally—all according to a plan furnished by E. During this time no dissociation test was given; but immediately after speaking the answer O had forgotten the utterance and could not recall that any plan had been given him. He later recalls the plan, counting the pages, speaking the answer, and the answer spoken, without, meanwhile, having had access to any source of information outside himself; and he thinks that at the time of counting he was unaware of so doing.

The chief defect in the foregoing evidence is in the Dissociation Test. The possibility is not excluded by the objective evidence that the plan was carried out in an alternating (rather than co-conscious) state, and straightway forgotten, though the subjective evidence, so far as it goes, favors co-consciousness.

*Associative relations among the several stages and subgroups:* By aid of suggestion, Hyp. 1 is not associated with ("known" to) the dominant group of Int., but is to some extent with the (hypothetical) vocalized-number group. It is also dissociated from Hyp. 2 (unless the first bit of writing be held to imply direct association), but associated with Post-hyp., with the aid, perhaps, of the suggestion given at the end of Hyp. 2. In Int. the vocalized-number group (if it exists) is almost wholly dissociated from the dominant group; is associated with Hyp. 2 and Post-hyp. The dominant group is reunited with the (hypothetical) vocalized-number group in Hyp. 2; it is also associated with

Post-hyp. Hyp. 2, in turn, with the aid of a suggestion to that effect, persists in Post-hyp., but begins to fade at the end of the experiment.

*Comments:* (1) The chief interest of this experiment attaches to the dissociation (or, if it be purely physiological, the disconnection) of a small vocal system, in Int.; and the spread of that system, in Hyp. 2, to include the entire speech apparatus—not merely the actual use of it but what such use felt like. In this observer, the hand-verbal system is evidently a completely functioning one, requiring no coöperation from the voice-verbal one. He seems able to think in hand terms; and to do so with ease. (2) O declares that he can't speak because he said 652, that is, apparently, because he followed the original suggestion to speak and not know it. Reporting on this later, he adds that he had the feeling of not wanting to speak. Was this a resistance to automatic speaking? (3) A feeling of sleepiness apparently accompanies the execution of the suggestion in Int. and disappears afterward. (4) O's failure to raise his hand as a code response to a question seems contradictory to the motor suggestibility evident a little later. Apparently, too, as the later developments showed, there was no failure to understand E's meaning. It remains unexplained. (5) In Post-hyp. O is able to recall from his past experience analogies to his vocal paralysis; but in the preceding Hyp. 2 he cannot. (6) In hypnosis O seems to neglect all stimuli that are not specifically brought to his attention by E. (7) He is not much disturbed by the vocal paralysis. (8) The felt likeness between Int. and Hyp. 2, as well as the fact of felt difference, is worth noting. (9) Speaking without sole reference to this experiment, O implies that there are fluctuations in degree of dissociation between simultaneous conscious systems; but these visitant "inklings" seem to be of the vaguest.

## EXPERIMENT Q.

May 21, 1920, 4 P.M.

O: H. W. L.

E: C. T. B.

R: G. E. H.

## HYPNOTIC STAGE 1:

Directions to O: I am going to give you a problem to multiply two numbers. The first will be the number of letters in the first proper name



I utter when you waken; the second will be the number on the left-hand page of the book I shall hand you, when I waken you. When you have performed the problem, you will speak the answer automatically, without remembering what I have told you. (Directions repeated; then) Do you understand? (Affirmative reply.)

#### INTERIM STAGE:

Tests for suggestibility are negative. E then says: "George, will you give me that book? E hands it to O, open at page 86 (left hand). O turns over the pages and says (as R heard it) "416." (E heard it as 116, changed by O from 114, first uttered. The correct answer would be 516.) The utterance was in a low voice, but fully vocalized, not whispered.

E: What? O: I didn't say anything.

E: (Persevering) What did you just say? O: Nothing.

E: What can you recall saying so far? O: I remember saying that I didn't say anything.

E: Do you remember any titles you have just been over (referring to the contents of the book handed to O)? (He recalls some.)

Tests for suggestibility are negative.

E: Do you recall anything from the previous state (*i.e.*, Hyp. 1)? O: All I remember is a blank. I can't remember anything.

E: If I say that you don't want to remember anything, would that be true? O: No. I'd tell you if I could remember.

#### HYPNOTIC STAGE 2:

E: What were you doing when awake just now? O: Looking at a book; talking with you. I gave you the answer to the problem (all correct).

E: What was it? O: 526. (The correct answer is 516, but the erroneous one is too much in accordance with the plan already known to E to invalidate the experiment.)

E: How did you get it? (O states the problem correctly.)

E: What was the first proper name I uttered? O: George (correct).

E: How many letters in it? O: Six.

E: What was the number on the page? O: 86 (correct).

E: How did you give me the answer? O: Automatically.

E: In what form? O: I spoke it (correct).

E: What did you reply when I asked you what you said? I told you I hadn't said anything (correct).

E: Was this true? O: It was when I said it.

E: Why? O: I didn't know I had said anything.

E: How could that be? O: You told me I wouldn't remember it.

E: Didn't you notice yourself saying it? O: No.

E: Did you know, at the time, that you were getting the number from George's name? O: No.

E: Did you do the problem as you ordinarily do (*i.e.*, as you would do it outside hypnosis)? O: I think so; I'm not sure. I can't recall multiplying anything.

E: How did you get the answer? O: It just seemed to come to me.

E: Though any particular sense? O: I could see it.

E: How did it look? O: It just flashed across in light letters.

E: Letters or figures? O: Figures.

E: Were you aware at the time of figures flashing across? O: No.

E: Can you recall events of the first hypnotic state? O: Yes.

E: Do you know what happens to those memories in the Interim Stage?

O: You told me I'd forget them.

E: In the Interim Stage are you thinking of my statement? O: I don't know.

E: Then you may be thinking of it. O: I'm not aware of it.

E: Then why say you don't know? O: Well, I'm not aware of it at that time.

E: Then why say you don't know? O: (Knitting his brows) I can't seem to think.

E: I want you to remember what you have been saying when you awaken. Do you think you can? O: Yes.

#### POST-HYPNOTIC STAGE:

E: Do you remember anything? O: Yes. You asked me what went on in the first hypnosis; about the problem you gave me; what I replied to your question, "What did you say?" when I gave the answer to the problem; and something about the Interim Stage. You asked me if I was thinking in the Interim Stage that you told me I wouldn't remember; and you asked me where the things went to which you told me I'd forget, and if I thought in the Interim Stage of the things you'd said I'd forget (all statements are correct to this point); or whether they didn't occur to me at all (not correct). You asked me the number of the page of the book; the first proper name you spoke; how I gave the answer (these all correct).

E: Do you know what those are now? O: Yes (giving them correctly).

E: How did you give the answer? O: I spoke it automatically (correct).

E: Do you remember speaking it? O: No, only my answer to your questions about it.

E: Do you remember the events of the Interim Stage? O: (Much perplexed) You asked me, at the end, if I recalled any of the names of the fables I'd passed over in looking through the book (correct). Nothing else.

E: Do you remember reading a book? O: Yes (but adds); I don't know whether I remember the act itself or what I told you afterwards.

E: You don't know, then, what automatic speaking feels like? O: No.

E: Do you remember telling me you hadn't said anything? O: I don't think I do.

Tests of suggestibility are negative. O cannot remember events of Hyp. 1, but does remember telling about them in Hyp. 2.

*Probative character of this experiment:* O performs the somewhat complex act of selecting data and computing with them according to a plan known independently to E; and *immediately afterward* is unaware that he has done so; recalling it, however, later, without access to any source of information outside himself. The data available at the time the act was being performed do not, however, necessitate the interpretation that there was more than one conscious state in operation; but O's own later introspection (of course not objectively verifiable), given in Hyp. 2, implies,

if true, the simultaneous existence of two dissociated groups of mental states, *i.e.*, co-consciousness.

*Associative relations among the several stages and subgroups:* By aid of a suggestion, Hyp. 1 is dissociated from (not "known" to) the dominant group in Int. but not from the (hypothetical) problem group. It is associated with Hyp. 2 but, again, dissociated from Post-hyp. The dissociated groups (if there be two) of Int. are reunited in Hyp. 2; but in Post-hyp. the (hypothetical) problem group has entirely disappeared and the dominant group very nearly. Hyp. 2, with the aid of a suggestion to that effect, is associated with Post-hyp.

*Comments:* (1) The actual process of the problem solving is, again, a puzzle. It leaves no traces available for introspection; the results alone are registered, and in the visual field. (2) If one accept co-consciousness as demonstrated in this experiment, then it has also shown that vocal-kinaesthetic—and possibly vocal-kinaesthetic-auditory—sensations may, like the touch-kinaesthetic, be split off to join the problem group. If co-consciousness be not accepted as the legitimate interpretation of the data, we must speak merely of a systematized physiological disconnection.

## PART IV

### CHECK EXPERIMENTS MOSTLY WITHOUT HYPNOSIS

#### SECTION 1. TO TEST ABILITY TO PERFORM WITTINGLY DISCREPANT FUNCTIONS TOGETHER.

##### X. WITHOUT HYPNOSIS—EXP. 1-6.

###### EXPERIMENT XI.

Jan. 24, 1920.

O: G. E. H.

E: C. T. B.

R: J. L. B.

*Purpose.* To test ability without hypnosis to perform two very different tasks together, as a check upon results obtained in hypnosis.

*Test I.* Directions to O: Add mentally 61, 28, 49.

Results (in about 13 seconds): "It's a hundred and thirty—something. I've forgotten the last column over" (meaning units column). O could visualize the three numbers, set down as for addition. He added the right-hand column. Then, on adding the other, he found that he had forgotten the units figure of the sum and also the original numbers. He gave up in about 30 seconds.

*Test II.* Directions to O: Write a series of numbers beginning with 7 and adding 7 to each preceding number; and at the same time name orally the states of the Union. (The writing hand in this and the following experiments was, of course, concealed from O's vision.)

Results: O wrote twenty-one numbers, in which the only errors were that the fourth was a repetition of the third, and the sixth of the fifth. Meanwhile he was giving the states as directed. In comment O stated after writing some time that he had never learned 7's beyond 84; that he thought he had written up to hundreds (actually 133); that at the outset the first two or three numbers were confused, but afterward, the two tasks were carried on together up to 84, the writing being mechanical. After 84 he had to *think* of both along at the same time.

*Test III.* Directions to O: Repeat aloud as many stanzas as possible of America, while writing the Rime of the Ancient Mariner, Pt. 2 (which O said he knew).

Results: The first stanza of Part 2 was written with the following error in the third line: "Still hid in mist" was given as "Still in mist in mist." Meanwhile, he was repeating several stanzas of America as directed.

O commented on the experience as follows: America was not known very well. The experience was not at all like automatic writing; then he had not been aware of writing; now he was fully aware. He felt himself trying to do both tasks at the same time. He could think at times of America to the exclusion of the Rime, while still writing, and yet afterward he knew how far he had gone in writing. Again, when he stopped to recall America he knew where in that poem he had paused.

O needed considerable prompting after the first stanza of America. When unable to go on in oral work he would stop writing.



*Conclusions:* The character of the work done here does not seem to be very different objectively from that of the Interim Stage in Exp. 1; but the performances in the two cases *feel* to O very different. In the present experiment he *feels* interference and alternation of tasks; in the former he gives no indication of such feeling. Here, then, is an important difference between the two states.

*Criticism:* Are the tasks assigned him like, in essentials, those assigned in the original experiments, that the present may be a check on the former? The essential seems to be that the check task should be no more difficult than the original. The proper judge is, presumably, the person on whom the check is to be made—he to try both without hypnosis. It is of course not possible that the identical task should be given for both check and original, and in default of a standardized series of tasks equated in difficulty the experimenter must take a chance. Here, however, is a valid adverse criticism.

How serious is this criticism? This may be gauged by considering what this check may be expected, when satisfactory, to show; that is, that hypnosis introduces some factor essential to the successful performance of several divergent tasks together. It would not, however, form any link in the proof as to whether, in the experiment thus checked, co-conscious states had actually been developed. Hence were we to discover, as a result of the ideally perfect check experiment, that hypnosis is not necessary to the simultaneous performance of highly complicated tasks, the question of fact would not thereby be touched, as to whether the performance in hypnosis had really involved co-consciousness. This conclusion, rather, would seem to follow, that hypnosis not essential to successful performance, was essential to the development of co-consciousness.

#### EXPERIMENT X2.

Jan. 24, 1920.

O: J. L. B.

E: C. T. B.

R: G. E. H.

*A. Purpose.* As in Exp. X1, a check upon results in hypnosis.

*Test I.* Directions to O: Write your name in full and at the same time repeat aloud the first stanza of America. (After this was done the first

stanza of Bowdoin Beata was substituted for America. The tasks here and in II and III below were chosen because familiar to O.)

In the performance of this task O wrote, at first in an irregular, unformed fashion, which, however, improved a little as he went along, the following:

*Josephly* (Next come n and w, merged with each other.) o o (Writing here runs off the paper.) | *Badjer jer* | *Joseph Lynwood Badger*.

Record does not show how well O performed the vocal task.

*Test II.* O was told to write the first stanza of America while repeating the states of the Union. He produced the following writing:

*My country tis of thee | sweet.—*

Forgetting after he had repeated a few states, how far he had written, he gave the task up.

*Test III.* O was told to write the table of 5's, and, at the same time, repeat the states of the Union. He wrote the following:

5 10 15 20 25 30 35 40 50 | 555 55 60 70 75 80 85 90 95, 10 | 105, 1005 110 120, 125, 130 130, 140

O commented on this experience as follows: He executed the task by connecting the name of a state with a number. He started the process by taking a group of numbers, 5—10—15, etc., and, while holding this in mind, repeated the names of states. Sometimes at the end of such a series, he forgot the numbers. He also repeated numbers. After he had gone through this group, he alternated numbers and states; they seemed to be going on together; but the states took the greater effort. Although not thinking of the numbers, he knew, after writing them, that they were correct.

*Comments:* On the same day an inconclusive experiment was made on the development of co-consciousness. This is not elsewhere set forth in the present report. In it automatic writing of a largely illegible sort was produced, of which, such as it was, O declared that he was unaware at the time and that he could recall nothing of its content. This fact is here recorded because of its contrast with the results of the present check experiments.

*B. Purpose:* To test O's ability to perform outside hypnosis simple problems of the sort done by him in hypnosis.

*Method and results:* O was told to add mentally 36, 27, 29. After a pause he said "one hundred and—I have forgotten what the number was—the second number." This in 15 seconds. Describing this experience, O said that he tried to add the first two numbers while they were being given; he had partly succeeded when the third was given; whereupon he lost the second number.

*Comments on these check experiments:* The general picture here given, in contrast with those of this same observer in hypnosis, is one of less efficiency and greater felt effort (see Exp. 11).

The record is, to be sure, regrettably incomplete; and the same criticism as in Check Exp. 1 arises here: Are the tasks assigned in hypnosis comparable to those assigned outside?

## EXPERIMENT X3.

Jan. 31, 1920.

O: G. E. H.

E: C. T. B.

R: J. L. B.

*Purpose.* The same as in Exp. X1.

*Method and Results.* O was seated at a table with his right hand behind a screen, and was told to discuss woman suffrage while, at the same time, writing an account of the day's doings. He wrote as follows:

*I slept until 11.30 this morning | Had lunch 12 this | noon. This afternoon | I went down on the | on the mail at 2.30 reat (?) (read?) | 3.00 P.M. Then | I want mone (more?) than*

Vocally O gave at the same time a general discussion without much hesitation. Being told to give arguments against woman suffrage, he complained of not being able to do two things at once. He made a great effort, breathing hard. This, he said, was harder than the Ancient Mariner (referring to a former check experiment). While that was more or less mechanical, he felt that now he was doing two things at the same time. The end of the writing seems to show considerable interference.

*Conclusions:* (1) Outside hypnosis O is not able to perform complicated activities with such ease, especially in the matter of vocal execution, as in the original series of experiments. He appears much more hampered. (2) Success so far as attained seems to involve no co-consciousness.

*Criticism:* As in Check Exp. 1.

## EXPERIMENT X4.

April 15, 1920, 2:40 P.M.

O: G. E. H.

E: C. T. B.

R: J. L. B.

*Purpose.* As in Exp. X1.

*Method.* With his hand concealed, O was told to write from memory a poem "Gargoyles" by Amy Lowell, chosen as one he knew well by heart. At the same time he was to read aloud from a volume of Æsop's Fables.

*Results.* The following writing was produced: *Gargoyles a comedy of opposition | Thimble rig on a village | green | Snake charmers under a | bblue tent | Winding drugged sausage | bellies thru thin arms.*

The script was more regular and more like O's ordinary style than were his automatic productions. The content shows an entirely successful reproduction, even to capitals at the beginning of each line of the original text.

While writing O was reading aloud in a manner very different from his usual one. He read very jerkily, with slight pauses every two or three words; and his voice was monotonous. On finishing, he could remember nothing of what he had read, not even the characters in the fable. Describ-

ing the experience, he said that he had been able to write "by reading and thinking in pauses; his attention alternated but thought of writing altogether. Said task was made easy by neglecting entirely the reading and pausing frequently." (This description, quoted from the record, leaves something to be desired in the way of clearness in details, though its general drift does not seem doubtful.)

*Conclusion:* In his normal state, O's ability to perform two widely divergent tasks at the same time is far inferior to what he can do outside hypnosis with the aid of a previous hypnotic suggestion.

Have we the right to say that there is co-consciousness involved? There was a writing consciousness, as shown by O's own later account of that task, but that account shows the possibility of occasional lapses in this particular mind-group. The eye-voice-group was engaged in a task that was also conscious, but seemingly devoid of its usual felt meaning, again, with apparent lapses in the task. The vividness of the writing-group was, in O's feeling, almost always much greater than was that of the eye-voice-group; and proven so by O's total failure to recall the contents of the reading. There was certainly no complete dissociation between the two groups. The above mentioned "lapses" may, of course, possibly, have been occasional instances of co-conscious dissociation, but seem scarcely to require that interpretation any more than does the movement of a sleeper's limbs in response to certain stimuli. In the present experiment our usual criterion does not require us to assert the presence of consciousness. Alternation of vividness between the tasks, with an occasional entire lapse of consciousness for one, if not for the other also in alternation, seems to be all that we can properly assert on this point.

*Comments:* How comparable is the double task in this check experiment with the double task in the probative experiments? Analysis of the two cases seems to show that in the check we have the easier task (reading and writing-from-memory versus conversation and problem-solution); yet the apparently easier is performed with much greater apparent difficulty.



## EXPERIMENT X5.

April 28, 1921, 2:20 P.M.

O: G. E. H.

E: C. T. B.

R: J. L. B.

*Purpose.* As in Exp. X1.

Directions to O: I shall give you a piece of prose to read. If there be more than 19 lines in the selection, add the actual number to 52; if less, subtract the actual number from 52. Keep on reading the next selection, giving the answer as soon as possible.

O was handed a book of Æsop's Fables open to a selection having 20 lines. He proceeded to read in a constrained style, quite other than usual in either normal state or interim stage, conveying little connected sense of the meaning to an auditor. E found difficulty in understanding, not because the words were not clear, but because they were not grouped significantly. He gave 73 as the answer to the problem, the correct answer being 72. He stated later, however, that there were 21 lines, and, on that erroneous count, his computation was correct.

E: What do you recall of what you have read? O: Only something about a bramble and a fir tree (in the second selection).

E: What about the first selection? O: Nothing.

E: How did you perform the problem? O: By counting lines without thinking of the reading and doing problem while reading the second selection.

E: Can you compare this experience with your experience at the writing table, as you reported it on April 26? O: Not the same sort of experience at all.

E: How is that? O: In this case the two processes were alternate; in the other the writing did not conflict with what I was saying.

E: Do you remember the former experience clearly? O: Not very. As in so many of these cases, I remember telling about it but not the actual process. (O did tell about it. See experiment of April 26.)

E: Do you recall anything else about it? O: My writing didn't interfere with my talking.

E: Do you feel chiefly identified with the writing or the talking part? O: With the talking part. (Contradicts a statement made in hypnosis in another experiment June 10, 1921.) I remember that a little while. I do not remember at this moment the writing at all.

*Conclusion:* O's ability to carry on together, in his ordinary unified state, two complicated functions is far inferior to this ability in his dissociated condition in the Interim Stage, *i.e.*, outside hypnosis, but with the aid of a previous hypnotic suggestion.

*Comments:* (1) The results indicate that the problem solving, not the reading, was the vivid part of O's experience, as shown by the mode of vocalizing and the memory for the contents of the selection. (2) O felt a marked difference between his present experience and the Interim Stage; and that, in the present case in contrast with the former, the functions were not simultaneous. (3) He felt that the events of the Interim Stage were less fully

represented by direct recall than was what he had said about them afterward. (4) O felt himself identified with the voice-group rather than the hand-group—contrary to his feelings in the experiment of June 10, 1921.

## EXPERIMENT X6.

May 10, 1921, 3:00 P.M.

O: J. L. B.

E: C. T. B.

R: G. E. H.

*Purpose.* As in Exp. X1.

Directions to O: I am going to give you a problem to solve. Please read aloud the fable that I am about to give you. If there are more than 17 lines in it, subtract the correct number from 79; if fewer than 17 lines in it, divide 79 by the correct number.

The fable contained 20 lines; the correct answer was 59.

Directly after O had finished reading he said "65—61, I mean"; then, still later, "65 was right" (all incorrect).

E: What can you recall from your reading? O: I have forgotten the name of it. All I can remember is that it had something to do with an animal that was besmirching a statue; and that a bird said it would do no good (both correct); but I have forgotten why. I was busy counting lines. The part I do remember was where I got interested in the story and lost track of the lines. I had to fish around afterwards to remember the number. I was trying to count by tabulating, *i.e.*, adding in my mind one more after reading the end of the line; by visualizing the sum at the end of each line in the margin. When interested in the story I lost track of counting; when counting I lost track of the story.

E: What do you mean by "fishing"? O: Trying to recall the total already counted. When I turned the page, I saw at a glance how many lines were left. So I spent the time subtracting while reading the end of the story. There were 13, 14 or 15 lines (really 20)—I don't remember.

E: Was the operation easy? O: No, extremely difficult. Before receiving the book, I tried to devise some easy method for counting, but without success.

*Conclusions:* Under the normal conditions of this experiment the two tasks are not felt as being performed simultaneously by separate functions respectively, each of which is equally vivid. They rather alternate in vividness, though perhaps neither quite disappears as such. Whatever be their character, they interfere with each other, as shown by the errors in one and the scanty recall from the other. This is in striking contrast with the findings in the hypnotic experiment, *i.e.*, when the discrepant tasks were performed outside hypnosis but with a previous hypnotic suggestion.

## SECTION 1. Y. IN HYPNOSIS—Exp. 1.

## EXPERIMENT Y1.

April 15, 1920, 2:50 P.M.

O: G. E. H.

E: C. T. B.

R: J. L. B.

*Purpose.* To study ability to perform two discrepant tasks at the same time, while in hypnosis, for comparison with similar performances outside hypnosis, either with a previous suggestion in hypnosis (Exp. A) or without it (Exp. X4-5).

(This experiment followed a similar one performed without hypnosis on the same observer.)

Directions to O: Being hypnotized, O was told to write a stanza of Amy Lowell's "Gargoyles" from "Pictures of the Floating World" (chosen because known verbatim by O), and, at the same time, to read aloud from Æsop's Fables. Passages were selected by E that had not previously been used in these experiments. The writing hand was concealed.

*Results.* O read rapidly in a low voice without great emphasis. The right hand, at the same time, produced the following:

*Tree lights . . . drip cockatoos of c . . . col (Pencil runs off paper.) |*  
*. . . Upon broadest shoulds | . . . Dered . . . . . to a | . . . |*  
*silver fish | Gluttonous . . . hands . . . | . . . apron stroings And*  
*. . . re (Pencil runs off paper.) | red apple . . . Slide under | ice flows and*  
*waltz | clear thru . . . to the . . . tropics . . . To sit am (Pencil*  
*runs off paper.) | Cocanuts and . . . caress | . . . |*

The original stanza—the second—runs as follows:

"Tree lights  
 Drip cockatoos of colour  
 On broadest shoulders,  
 Dead eyes swim to a silver fish.  
 Gluttonous hands tear at apron strings,  
 Reach at the red side of an apple,  
 Slide under ice-floes,  
 And waltz clear through to the tropics  
 To sit among cocanuts  
 And caress bulbous negresses  
 With loquats in their hair."

Most of the dotted parts of the record above are filled in the original script with characters that resemble a series of figure 8's, written in sequence without lifting the pencil, or, occasionally, occurring singly. They are obviously not illegible attempts to write words of the text since they are alike, while the omitted words differ among themselves. Sometimes, moreover, they occur where no word is omitted. They probably indicate some recurrent mental state of another sort, perhaps mere forgetfulness. These same characters occur not infrequently in the earlier automatic writing of this same observer.

E: What are you reading about? O: A goose and a peacock (correct).

E: How many fables did you read? O: Three (correct).

E: What was the goose-and-peacock fable about? O: The goose wanted more than his lot (correct).

E: What was the fable of the mastiff about? O: The mastiff got splashed by the goose (really, slapped angrily with her feathers by a pond-side).

E: What was the meaning of the fable? O: I don't recall.

E: What are you doing with your right hand? O: Writing.

E: What? O: Second stanza of "Gargoyles" (correct).

E: Were you doing both at the same time? O: Yes.

E: Did the tasks alternate? O: No.

E: Did you understand what you were doing? O: Yes.

E: Was it hard to do? O: (hesitates).

E: Why do you hesitate? O: Because sometimes I wanted to say what I was writing and sometimes I wanted to write what I was saying. They tended to intermingle.

E: Are you asleep or awake? O: Neither.

E: What is your state? O: Hypnosis.

O was then wakened and asked to recall what he had been doing. He replied that he could not. He thought there was something to remember but he could not put his mind on it. It seemed to him like the ordinary experience of having a name on the tip of the tongue but not being able to get it.

He was told to put his mind on it. In reply—could remember if he made an effort; recalled walking (presumably between the table and easy chair); other things there but he couldn't utter them.

Being asked whose name was next his own on his class list, he replied correctly (showing that the power to recall was not in general lacking). He was then asked again to tell what he had been doing and assured that he could recall. He replied: "Sitting at the table."

E: Go on. O: Reading a book.

E: What else? O: Writing.

He said that he could recall no more; that it seemed like a dream, differing greatly from usual experience. (This ambiguous statement perhaps means the experience of trying to perform discrepant tasks simultaneously, without hypnosis.) Being asked how they differed, he replied that one was alternate and the other simultaneous. (The record does not state which was which.)

Describing further his recollection, he said that he had a visual image of himself reading and writing; that the book had a red cover and opened nearer the back than the front (both correct); that he recalled the feeling of the pencil, its number and size—No. 6. (This cannot now be verified. In any case O presumably saw the pencil before or after the writing.) He could not recall the reading part and could not hear himself reading (*i.e.*, had no auditory images of it).

*Conclusions:* The discrepant tasks were carried on with considerable success, as shown by a fair reproduction of the selected text in writing and by the fluent reading. The amount of the latter recalled was, to be sure, slight and not always correct, and fable meaning was not remembered, though O professed to have understood the reading; but E did not press very hard for details while O was in hypnosis. Pressure after hypnosis yielded but little and that insignificant, except for the nature of the two discrepant tasks.

Details of the reading were, according to the record, better recalled than those of writing, but E did not attempt to get more than an identification of the latter during hypnosis.



Without much insistence on E's part, O would have recalled considerably less after hypnosis.

There was found no objective evidence of mutual interference between the tasks; O felt, however, that they did interfere somewhat but did not alternate. There was no evidence for dissociation during the performance of the discrepant functions.

A comparison of these results with those obtained in experiments without hypnosis and after hypnotic suggestion yields the following:

The reading function was best carried on after hypnotic suggestion and worst outside hypnosis.

The writing function was best carried on outside hypnosis and worst after hypnotic suggestion.

In both functions, second best results were yielded in hypnosis.

The ability to recall the events of the complex performance cannot be compared in the three cases as proper tests were not made.

The honors, thus, for the best combined performance of these discrepant functions must go to that carried out in hypnosis, as shown in this present experiment.

## SECTION 2. TO TEST ABILITY TO PRODUCE AUTOMATIC WRITING WITHOUT HYPNOSIS. Z. EXP. 1-2.

### EXPERIMENT Z1.

May 10, 1921, 1:45 P.M.

O: G. E. H.

E: C. T. B.

R: J. L. B.

*Purpose.* Automatic writing without hypnosis, sought for comparison.

*Method.* O was told to sit at the table where automatic writing in hypnosis was usually tested, as the observer knew. He was also told to put his hand behind the screen. There his hand touched the pencil and picked it up. Nothing was said about the object of the experiment. From a volume by J. R. Lowell, "Latest Literary Essays," O was asked to choose the essay that he preferred to have read aloud to him by R. During the reading, E sat somewhat apart where he could watch O without being conspicuous. Occasionally he would shift the paper on which O was writing; occasionally, like O and R, show by some expression an interest in the reading, especially if obliged to shift the paper. He directed the course of the conversation, begun when he was satisfied with the amount of writing done. He did not read the writing by G. E. H. till that conversation was nearly concluded.

When J. L. B. in turn became O on the same afternoon (Experiment Z2) he, of course, knew what had been going on; he had also read what G. E. H. had written; but otherwise the method used with him was that already described.

G. E. H. selected the essay on the Progress of the World, from which R read him four or five pages. At the conclusion of the reading he discussed it, remarking that he was chiefly interested in the statement that modern literature was the most despondent. Lowell maintained that the progress of literature was in the direction of increasing melancholy; whereas, said he, progress consisted in building new things on the ruins of old, it is not a statistical increase. These, said he, were the things that interested him most in the essay. He discussed them intelligently, giving his own views; saying that progress would be determined by a comparison of two periods and the acknowledgment of a standard. O's reaction to the reading showed a grappling with one or two special issues rather than a rehearsal of many details. Meanwhile his right hand produced the following:

*portrait of Washington . . . | told by | the | marks on the | paper by the marks on the | paper | on the paper | (Reading stopped here.) told by marks | on the paper | Portraits of Mme | de | Pompadour . . . | with white and gold dress.*

The content of this writing produced without verbal suggestion as to act or content, repeats the content of automatic writing produced in a former hypnosis, by suggestion, as recorded in Experiment 9 of Part II. It continued during both reading and conversation, and stopped when O's attention was called to tests for anaesthesia.

E: What has been going on while you have been at the table? O: I don't remember doing anything with my hand.

E: How has your right hand entered into your experience? O: I remember picking up pencil but I don't remember doing anything with it.

Earlier he had said: "I don't remember much doing anything with it"; and now, spontaneously, "I didn't think of my right hand until you started touching it."

E: Which hand did I touch first? O: Left.

Really it was the right hand and done while O and E were conversing as indicated above. Directly after touching the right hand some ten times in various places, E asked O to lay his left hand on the table and, closing his eyes, to tell E when he felt a touch. So the replies showed that there was no anaesthesia *then*, of either hand. Until, however, his attention was called to this matter of being touched, in the manner just stated, he was, as it appears from the reply last quoted, anaesthetic in the writing hand.

E: Have you ever tried to do automatic writing elsewhere than here? O: I am pretty sure I haven't.

E: Either in hypnosis or out? O: I think neither.

E: Do you feel fully awake? O: Yes.

Tests for suggestibility were negative.

E: How does your general feeling compare with that of the interim stage? O: Not like it.

E: Like it at any time during this experiment? O: No.

E: How does it (the present state) differ? O: More awake feeling—aware of what is going on around and thinking of various things. In the interim stage, not aware of what is going on around and not thinking much of anything.

E: How else would you describe the interim stage? O: The combination (i.e., of the foregoing traits) makes a dreamy state. It seems unreal when you look back on it.

E: Do you recall what you thought when you first sat down at the table

this afternoon? O: The screen with my hand behind it made me think I was going to end up by doing some writing.

E: What attitude did you take toward the writing then? O: I didn't take any attitude; I just thought of it.

E: Tell me what you wrote. O: I didn't know I had written till I got a glimpse of the paper just now.

E: Try to recall it. O (After trying for 15 minutes) Said he could recall nothing.

(For conclusions see the end of the following experiment.)

## EXPERIMENT Z2.

May 10, 1921, 3:15 P.M.

O: J. L. B.

E: C. T. B.

R: G. E. H.

This experiment was immediately preceded, on the same O, by another to test his ability to perform two complicated functions at the same time—reading connected prose and solving an unrelated problem—without hypnosis.

The purpose and method are stated in the introduction to Experiment Z1.

After O had selected the essay on Walton from J. R. Lowell's "Latest Literary Essays," R read aloud from it six or seven pages, then, being asked what he could recall, O mentioned the following details: biography in general talked about; Walton's life as a special instance, spent by cool streams; an unacknowledged quotation from Gray's Elegy noted by O; a poem dedicated to Walton by S. P.; two dedications (in different editions) the same except for one word (error); Walton's character known by the age of twenty-two (twenty-six to be correct); the author's discourses on names—Napoleon, others from the Greek—did not interest O; the name Henry occurred often in Walton's family.

This recollection is reasonably full and largely correct.

Meanwhile a test for anaesthesia of the right hand was proceeding in the method indicated in Z1. Suggestibility was negative.

The following writing was produced in a varied, but mostly cramped, style, differing thus from the concealed writing he intentionally produced.

. . . J L. B. by (?) th marks by the | by the marks. I knew Roosevelt  
by the marks | J L B. I knew Roosevelt by the marks | Washington | . . . |  
Washington . . . I knew Roosevelt | picture by th marks by the | marks  
marks (Here follows a series mostly of x's) | marks marks | . . . | marks  
marks | (Reading stopped here.) marks marks marks | marks marks . . .  
By marks | . . . J (?) L B (with something written on the place of the  
initials that may be "By") mark mark | marks marks marks mark marks |  
m . . . marks marrks President . . . |

Several cases of imperfect letters, especially m's, occurred in the foregoing, just as happens in writing normally produced. There were several cases of possible "house hieroglyphics." (See record below.) O reverted in choice of subject to material given in the automatic writing of an earlier experiment, just as did G. E. H. Any conclusions to be drawn from the latter's spontaneous reversion cannot be confirmed by the behavior of J. L. B., since he knew what G. E. H. had done.

E: What has been going on since you sat at the table? O: George has been reading; I was listening. My hand, behind the screen picked up the pencil and made marks, pictures, etc. I paid no particular attention to anything beside the reading.

E: Did you feel any touches? O: Yes, on the left hand. You also touched the right hand—the left hand first (last statement incorrect).

E: Is this state like the interim stage? O: No—guess not. I can't remember the interim stage (laughing a little as he speaks). Interim stages seem almost as unreal as hypnosis. Hypnosis seems like sleep, the interim stage like a dream.

E: How does your present state differ from that? O: As far as I can remember, the interim stage is a half-awake state, like waking-up in the morning—half awake and thinking of things. The present state is fully awake. I make an effort to think about things now.

E: Do you recall anything else (*i.e.*, in the way of a distinguishing difference)? O: No.

E: What did you have in mind when you sat down at the table? O: I was wondering what was going to be read.

E: Any attitude toward the experiment to be carried on? O: No, I wasn't thinking about it particularly.

E: Have you ever tried to produce automatic writing elsewhere than here? O: No. I often write my name, though, while talking to someone or while telephoning—hieroglyphics. Often when taking notes, I stop writing to listen to the professor, and when I look down to my notes again, I find that I have written two or three lines that didn't have anything to do with the rest of the sentence. I've noted this half-a-dozen times—this morning in particular. It is often illegible—this morning clear, the words were "from the."

E: Are you aware of having written anything making sense this afternoon? O: No.

E: Aware of doing anything with the pencil? O: Drawing pictures and making marks.

E: What sort of pictures? O: Crosses, geometrical figures and my particular hieroglyphic for a house.

E: Make that hieroglyphic. O: (hesitating) I can't tell—can't see it—don't know where to start (half laughing as he speaks).

E guided O's concealed hand, without touching it, to a vacant place on the paper where O drew the figure.

E: Have you been making them this afternoon? O: I've been starting them but probably didn't finish them.

E: Write your name. (O does this, in a script larger and more irregular than his usual signature, and much larger than the cramped writing automatically produced.)

E: Any difference between this and mark-making? O: Yes. This is an effort.

E: What is required to produce this? O: Effort. I tried to imagine what the paper would look like, to proportion the letters.

E: In what sense field were your images? O: Visual.

E: Please try to recall what you have written (*i.e.*, automatically). O: I didn't know I had written—no place to start with, in remembering.

E: Think of things as near to it as you can. O: Don't remember anything. Might have written "house" because I was drawing a picture of it. (No indication of it in the record.)

E: (Showing O the paper containing the writing) Does that recall the experience to you? O: No. I remember making those three things at the top—that hieroglyphic.

E: What is that first hieroglyphic? Was it meant to be anything? O: No.



*Conclusions:* (1) Both observers were able to write automatically without the aid of hypnosis, though neither was aware of having developed such a power prior to, or outside the limits of, our experiments. One of them, however, had shown some fragmentary writing automatisms. (2) In both observers, the quality of the writing content was not unlike that produced by the aid of hypnosis. (3) In both, this writing was accompanied by other occupations as diverse and complex as in the hypnotic experiments. (4) The results from both show that automatic writing can be produced when one feels as much awake as usual, and is not suggestible either in the writing hand or elsewhere. (5) The content of the writing was spontaneous and reproduced that of former co-conscious processes (automatic writing). In the case of G. E. H., its selection may have been due to place association; beside this possibility, in the case of J. L. B., is the other, that it might have been suggested by the known content of G. E. H.'s production. (6) It seems, at first, that we have here evidence for the existence of co-consciousness in the normal state. The evidence, however, does not satisfy the canons we have accepted. We may have here no other than a purely physiological process. If, on the other hand, its possibility is elsewhere proven, the same interpretation may properly apply here; and we then have, in our present results, confirmatory evidence. (7) There is, however, no evidence here for continuous and persistent dissociation; conditions prevalent at the time may have caused it. (8) Whatever the process be, whether mental or only physiological, it is in some way dissociated (or just disconnected), as shown by (a) anaesthesia, (b) O's ignorance that he is writing, and (c) his ignorance of its content. This was shown by both observers. (9) The introspective report of the felt difference between the Interim Stage and the mental state during the present experiment is significant in the case of G. E. H. No probative value attaches to the introspection of J. L. B. since he had heard the other's account.

## PART V

### CONCLUSIONS AND COMMENTS

If the reader has well considered the statement made in connection with each experiment as to its probative value, he will recognize that a general conclusion must take the form of an unnecessary repetition, to the effect that co-consciousness is demonstrated as existing in certain normal persons, in hypnosis; that, therefore, by the canons of proof laid down at the outset, we are justified in abandoning the hypothesis of mere neurone systems functioning disjunctly.

The "intelligent" character of the co-conscious processes consisted in obtaining new data, performing simple mathematical problems, interpreting codes and acting accordingly, and in revealing unrecognized bases for choice—all in accordance with plans accepted from the experimenter.

Of the check experiments five out of six show that discrepant functions can be performed at the same time more efficiently in dissociation than in the normal state. The remaining experiment showed no important objective difference in results from those obtained in dissociation, but it did show greater felt difficulty of function. The check experiment performed wholly within hypnosis and without dissociation showed simultaneous performances superior on the whole to all those obtained under other conditions; but this needs a good deal of confirmation.

Finally, the check experiment on automatic writing shows that a good performance can be obtained without the aid of reinforcing hypnotic suggestion. It confirms in this respect the results obtained in Exp. 1, 2, 9, and possibly I.

Some interesting facts about the structure of mind during the state of dissociation have been brought to light. Dissociated, discrepant systems (functions) are dominated by a unifying idea, in part furnished by the hypnotizer, in part a product of the state of hypnosis. This dominant idea determines and maintains the state of dissociation. In this way the efficiency, the fluency, of

the several discrepant systems is sustained, as against their usual interference with each other. There is great variation in the association between Hypnotic Stage 1 and the Interim Stage, on the one hand, and either Hypnotic Stage 2 or the Post-hypnotic Stage, on the other. Where such association occurs, its extent varies considerably. Why the impulse to dissociation—whatever that impulse really is—should so vary in efficiency, and what actual countervailing impulses, if any, are in operation, alike remain a mystery. Of the latter the only ones the experimenter has detected as probably operative in the men on whom he tried, either successfully or unsuccessfully, to obtain results, are timidity, dislike of effort, and dislike of felt confusion among ideas. As to effort, it seems that the reinstatement, even in memory, of the complex functions of the Interim Stage involves difficulties not attaching to the original occurrence, where all operations move on smoothly enough. Functions in hypnosis are felt as effortless by comparison, though the act of recalling in hypnosis is not infrequently accompanied by signs of effort. Such evidence as is available seems to indicate that this effort is due to some opposing impulse, some dislike for the complex dissociated state, which is quite absent (or in turn inhibited?) when that complex state is present. The latter feels confused in retrospect but not when in operation.

Some facts of interest about the state of hypnosis come into view. Verbal suggestions in hypnosis to remember its events on waking are not always necessary to ensure recall, nor at other times are they always sufficient. There is, further, in hypnosis a lack of curiosity, of shifting interest. Events not connected with the dominant idea are noticed but unnoted—are perhaps weakly vivid. There is dulness of expression, even when eyes are open, that contrasts markedly with the alert glance occurring at once upon cessation of hypnosis. Is it like the state when the sleepy person has abandoned himself fully to sleep; the state when the eyelids are closed, and the delicious feeling of eyes rolled up and out has come on; and yet thinking may be very clear, and visual experiences perceptual in distinctness may be developed? The observers say sometimes that they are awake,



sometimes that they are asleep, sometimes that they are in hypnosis; that they seem floating in space without sense of direction. They feel comfortable—more so than in the Interim Stage; they “don’t care.” They have delusions of bodily control, which change to illusions in the face of the difficulties they meet. “I feel that I could if I wanted to, but I know I can’t.”

The experiments in automatic speech suggest a further line of inquiry that may be of value. The amount of such speech was indeed very small, yet it was strictly all that the conditions of the experiment provided room for. No attempt was made to determine how extensive an automatism might in this field be developed as a simultaneous dissociated function. The experiments, so far as they went, were an attempt to discover whether the voice was as available as the hand for the medium of expression of the subdominant group, that is to say, of the group engaged in expressing the dissociated idea, as against the group engaged in adapting to the chance occurrences in the environment. The conditions of the experiments were not such as to prove the obtained speech to be a simultaneous conscious function, rather than purely physiological. More extended speech would be necessary, that one might be sure by the expressions of the dominant group, in turn, that it had not momentarily yielded the field; sure also by the specific character of the speech that it was being determined, as it went on, by assignable psychic activities. The present experimenter regrets that he failed at the critical time to penetrate into the meaning of his opportunity and the full demands of the problem.

The results that were obtained showed the fluctuating content of mental systems, the preying of one system on another, spontaneously occurring through instinctive impulses, whose force was coöperative or competitive with that of the dominant dissociating idea. This also may be worth further inquiry.

The superior efficiency with which simultaneous tasks can be carried on by the aid of dissociation leads one to mention a possible disadvantage. It is a loss of spontaneity in the scope of pertinent ideas available for a given task. This spontaneity is limited by the dominant idea, which does not itself yield—or yield



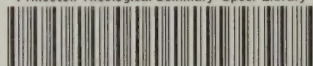
readily—to other ideas of spontaneous origin. The dissociated groups may not be able to “think” as widely each about its task as the normally integrated mind. The importance of this limitation depends upon the amplitude of range provided in the dissociating idea. Only experiments yet to be made can tell us about this. One must also note that the “thinking” of men under every-day circumstances is in its turn subject to its own group of strictly limiting conditions. No one can “think about anything he wants to”; there are other essential determinants beside desire. A little reflection on the hampered, jerky processes of one’s deliberate thought is enough for conviction here.





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